

5 February 2020

Energy | Regional Oil & Gas

## Regional Oil & Gas

## Overweight (Maintained)

### Fear Of The Unknown; Still OVERWEIGHT

Stocks Covered 21  
 Ratings (Buy/Neutral/Sell): 14 / 5 / 2  
 Last 12m Earnings Revision Trend: Negative

- Maintain sector OVERWEIGHT; Top Picks include SPRC, Keppel and Yinson.** The crude oil price is now bearish, while OPEC+ is scrambling to maintain market equilibrium, as oil demand is expected to decline from current forecasts due to the outbreak of the Wuhan coronavirus. We track the crude oil market during times of major virus outbreaks from 1967 to present day, and conclude that in a low-impact case, the crude oil price could average at USD57.00/bbl (worst-case scenario: USD38.00/bbl).
- Crude oil demand and prices in times of major virus outbreaks from 1967 to present day.** In all events save the H1N1 outbreak in 2009, crude oil demand grew constantly. This indicates that demand does not falter much, and can, in most cases, withstand the impact of major virus outbreaks. However, the crude oil price is more sensitive, having declined during seven events out of 10.
- The coronavirus could have a bigger impact on the global economy, vs any other outbreak,** as China tries to contain the outbreak – with almost 60m people and 20 cities in a lockdown. Our analysis suggests that the crude oil price could decline to USD38.00-57.00/bbl, depending on the severity of the coronavirus outbreak.
- Crude oil price assumptions maintained, for now.** The crude oil price (Brent spot) has averaged USD62.8/bbl YTD. As such, we maintain our crude oil price forecasts for 2020-2022, at USD64.00/bbl as its outlook remains highly uncertain, in relation to the impact on the global economy and oil demand. We expect the oil markets to remain challenging for the forecasted period, while OPEC+ should stay intact – to monitor and provide support for the oil markets. OPEC is looking at a further production cut of 500kbpd, due to the impact of the demand slowdown. OPEC and its alliance are considering holding a meeting on 14-15 Feb.
- Production cuts.** For Jan 2020, OPEC participating members' production cuts averaged 1.475mbpd, with production averaging at 24.75mbpd, or 126%-compliant. Saudi Arabia continued to shoulder much of the production cuts, with production averaging 9.7mbpd, down 933kbpd from Oct 2018's revised baseline (191%-compliant). Russia's crude oil production data pointed to an increase in production, at 11.28mbpd (+0.01mbpd MoM), but this included both condensate and crude oil. No information has been released by Russia about the breakdown in crude oil vs condensate. Iraq has started to lower its crude oil production, and it is now at 4.58mbpd (38%-compliant). Nigeria increased its production to 1.83mbpd, up by 92kbpd from the Oct 2018 baseline.
- OVERWEIGHT.** We continue to expect the price of crude oil to average USD64.00/bbl in 1Q20, and peak at USD66.00/bbl in 4Q20. The 2020F-2022F crude oil price is USD64.00/bbl, while our long-term estimate is at USD60.00/bbl. At the moment, all stocks under our coverage will be under pressure, due to the uncertainty stemming from the overall impact of the coronavirus. We assume that once normalcy returns, forecasts and expectations will be attained. Our regional Top Picks: TOP, SPRC, PTTGC, Keppel, Yinson, and Serba Dinamik.

#### Top Picks

Top Picks	Target Price
Star Petroleum Refining (SPRC TB) – BUY	THB10.30
Keppel Corp (KEP SP) – BUY	SGD7.80
Yinson (YNS MK) – BUY	MYR8.22

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#### World's worst fears are those of the unknowns



Source: Vietnam Insider

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Company	Rating	TP	% Upside (Downside)	P/E (x) Dec-20F	P/BV (x) Dec-20F	Yield (%) Dec-20F
PTTGC	Buy	THB59	13.46	5.84	0.78	8.17
Thai Oil	Buy	THB70	29.63	12.27	0.82	3.72
SPRC	Buy	THB10.30	16.38	9.83	0.86	5.31
Yinson	Buy	MYR8.22	31.10	17.66	1.79	0.64
Serba Dinamik	Buy	MYR2.81	26.58	11.68	2.41	2.70
Keppel	Buy	SGD7.80	16.94	11.77	1.03	4.25

Source: Bloomberg, RHB

## Fear Of The Unknown

The price of crude oil has fallen into a bear market, with Brent (ave) dropping to USD53.24/bbl in 3 Feb on fears over the coronavirus, from USD69.02/bbl in 6 Jan, during the Iran-US conflict). OPEC is scrambling to maintain a market equilibrium – as oil demand is expected to decline from current forecasts.

The coronavirus outbreak in China is spreading around the world. It has, at the time of writing, killed 361 people in China while there are now 17,300 cases reported since the January outbreak. The Central Government has also put 20 cities on lockdown, and quarantined 56m people. It has closed factories and industries. Other countries have curbed travel to and from China. Global land, air and sea transportation is most likely to take a hit, as is the demand for crude oil. The fear of the unknown has impacted global trade and the financial markets.

We know that the coronavirus is more contagious than the SARS outbreak in 2003. The mortality rate seems to be less than SARS, but this may be just the start of the outbreak. There are many unknowns for the coronavirus. At the core – and more pertinent to the oil market – is how long it will last, as well as what the impact on the global economy, oil demand and oil price will be.

For our analysis, we refrained from taking numbers from the 2003 SARS outbreak – as it occurred at the same time as the invasion of Iraq by the US-led coalition – which makes it difficult to pinpoint the cause of the oil price movement vs the SARS outbreak. The media reported differing numbers, with oil demand down by a range of 200k bpd to 3mbpd.

Below is a list of the major viruses that broke out from 1967 to present day. In all events, except for 2009, crude oil demand saw a constant growth – which indicates that crude oil demand does not falter much and can, in most cases, withstand major virus outbreaks. However, crude oil price is more sensitive, declining seven times of the ten events under study. The major crude oil price movements occurred in two periods:

- i. **1998:** Crude oil price fell 9.7% YoY to average at USD18.49/bbl, with demand at 74.5mbpd (+0.6mbpd/0.8% YoY). Global GDP growth slowed down to 2.44% from 3.97% in 1997. The Nipah virus outbreak resulted in 513 cases, with 398 deaths. However, the Asian Financial Crisis also occurred at this time.
- ii. **2009:** Crude oil price plunged 39% YoY to average USD68.13/bbl, with demand at 85.7mbpd (-0.8mbpd/-1% YoY). Global GDP growth fell to -0.31%. The H1N1 virus outbreak resulted in >762m cases and 284,500 deaths. This was also the time that the global financial crisis occurred.

**Figure 1: Coronavirus outbreak compared with other major outbreaks, and changes in oil demand and price**

Virus	Year	Cases	Deaths	Fatality	No. of countries	GDP growth % YoY	Oil demand			Oversupply /shortfall (mbpd)	Oil price		
							mbpd	Change YoY mbpd	%		USD/bbl	Change YoY USD/bbl %	
Marberg	1967	466	373	80%	11	3.72	35.4	2.3	7.1	1.67	12.77	-0.3	-2.8
Ebola*	1976	33,577	13,562	40%	9	4.88	57.70	3.30	6.2	2.64	53.30	2.5	4.9
Hendra	1994	7	4	57%	1	2.98	69.24	1.60	2.4	(2.16)	25.30	-2.5	-9.1
H5N1 bird flu	1997	861	455	53%	18	3.97	73.92	2.00	2.9	(1.82)	28.19	-3.0	-9.7
<b>Nipah</b>	<b>1998</b>	<b>513</b>	<b>398</b>	<b>78%</b>	<b>2</b>	<b>2.44</b>	<b>74.54</b>	<b>0.62</b>	<b>0.8</b>	(1.09)	<b>18.49</b>	<b>-9.7</b>	<b>-34.4</b>
SARS	2002	8,096	774	10%	29	2.76	78.70	0.90	1.2	(3.84)	32.97	0.2	0.8
<b>**H1N1</b>	<b>2009</b>	<b>&gt;762m</b>	<b>284,500</b>	<b>0.02%</b>	<b>214</b>	<b>-0.31</b>	<b>85.70</b>	<b>(0.88)</b>	<b>-1.0</b>	(4.52)	<b>68.13</b>	<b>-38.9</b>	<b>-36.4</b>
***MERS	2012	2,494	858	34%	28	3.21	90.66	0.87	1.0	(4.44)	115.28	-1.9	-1.7
H7N9 bird flu	2013	1,568	616	39%	3	3.30	92.00	1.30	1.5	(5.46)	110.55	-4.7	-4.1
*2019-n-CoV	2020	11,871	259	2%	24	****3.00	100.98	1.20	1.2	*****-0.4	*****64	0	0.0

Note: 1998 was the Asian Financial Crisis, 2009 was the Global Financial Crisis. \*As of Jan 2020, \*\* Between 2009-2010, \*\*\* As of Nov 2019, \*\*\*\*OPEC forecast, \*\*\*\*\* RHB forecast

Source: Business Insider, Ourworldindata, World Bank & Maddison (2017), OPEC, BP Statistics Review, RHB

The coronavirus could have more impact on the global economy, compared to any other virus outbreak, as China is trying to contain the outbreak, with almost 60m people and 20 cities on lockdown. Our analysis suggests that the crude oil price could decline to USD38.00-57.00 per bbl, depending on the severity of coronavirus outbreak.

Taking the impact on crude oil prices, from the table above:

- i. **Low case, USD57.00/bbl:** We assume a 10% decline in the crude oil price. This is if the situation does not result in a global recession, can be contained, and is not prolonged. We expect the crude oil price to average USD57.00/bbl in 2020 (-USD7.00/bbl from the current forecast);
- ii. **Worst case:** We assume a 40% decline, which is of similar magnitude to that of the Asian/Global financial crises. We can expect the crude oil price to decline much further than where we are now, to be at USD38.40/bbl (USD-25.60/bbl from our current forecast).

**Figure 2: Possible crude oil price impact**

	Crude oil price forecast (USD/bbl)	Impact (% decline)	Crude oil price (high and low case, USD/bbl)	Crude oil demand (mbpd)
Low case	64	-10%	57.6	c. -0.5
Worst case	64	-40%	38.4	c. -1.0

Source RHB

## Crude Oil Price Outlook

The crude oil price (Brent spot) average YTD-2020 is at USD62.80 per bbl. We maintain our crude oil price forecast for 2020-2022 at USD64.00 per bbl, as it remains highly uncertain as to the impact on the global economy/oil demand and thus, oil prices. However, depending on the severity of the coronavirus, the crude oil price could average USD38.00 per bbl under the worst-case scenario, or USD57.00 per bbl under the low-impact scenario.

With the current demand and supply scenario – and assuming 2020F OPEC production at 29.1mbpd – we expect to see a 0.4mbpd supply shortfall in 2020:

- i. We expect crude oil markets to be in a balanced position in 1Q20, with the expectation that OPEC+ will comply with its production cut agreements;
- ii. 2Q20F should see a slight oversupply, as non-OPEC production is expected to increase by 0.4mbpd, while demand is likely to decline by 0.2mbpd from 1Q20F;
- iii. Demand is expected to be boosted in 2H20, with the markets expected to be in a shortfall of 1.2mbpd and 0.8mbpd for 3Q20 and 4Q20.

Our assumption is that the oil markets will remain challenging for the forecasted period, while OPEC+ should stay intact – this is to monitor and provide support for the oil markets. OPEC is currently looking at a further production cut of 500kbpd due to the impact of the oil demand slowdown from the coronavirus. OPEC and its alliance are considering holding a meeting on 14-15 Feb.

**Figure 3: Crude oil price YTD-2020 averaged USD62.8/bbl**

(USD/bbl, spot)	4Q18		3Q19		4Q19		YTD20	
	End	Ave	End	Ave	End	Ave	End	Ave
WTI	45.4	59.0	54.1	56.4	61.1	56.9	50.1	57.1
Brent	53.2	67.7	59.9	61.9	66.4	62.5	53.7	62.8
Dubai	52.4	67.2	59.9	60.8	65.4	61.3	55.1	63.0
Tapis	57.1	70.6	65.7	66.6	73.9	68.1	63.7	71.0

Source RHB

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Figure 4: OPEC demand and supply outlook and our crude oil price forecasts

(mbpd)	2016	2017	2018	1Q19	2Q19	3Q19	4Q19	2019	1Q20	2Q20	3Q20	4Q20	2020
<b>Crude oil price (average Brent)</b>	<b>44.1</b>	<b>54.4</b>	<b>71.2</b>	<b>63.1</b>	<b>68.5</b>	<b>61.9</b>	<b>62.5</b>	<b>64.0</b>	<b>64.0</b>	<b>62.0</b>	<b>64.0</b>	<b>66.0</b>	<b>64.0</b>
<i>(RHB/actual)</i>													
<b>World demand</b>													
OECD	47.1	47.6	48.0	47.8	47.2	48.5	48.6	48.0	47.9	47.2	48.5	48.7	48.1
Americas	24.9	25.1	25.6	25.2	25.3	26.1	26.2	25.7	25.4	25.5	26.3	26.4	25.9
Europe	14.0	14.4	14.3	14.1	14.2	14.7	14.3	14.3	14.0	14.2	14.7	14.3	14.3
Asia-Pacific	8.1	8.2	8.1	8.5	7.6	7.7	8.1	8.0	8.4	7.5	7.6	8.1	7.9
DCs	31.6	32.1	32.6	33.0	32.8	33.5	33.2	33.1	33.6	33.5	34.2	33.9	33.8
FSU	4.6	4.6	4.8	4.7	4.7	5.0	5.0	4.8	4.8	4.8	5.1	5.2	5.0
Other Europe	0.7	0.7	0.7	0.8	0.7	0.8	0.8	0.8	0.8	0.7	0.8	0.9	0.8
China	11.8	12.3	12.7	12.6	13.2	13.0	13.4	13.1	12.9	13.5	13.3	13.8	13.4
<b>(a) Total world demand</b>	<b>95.7</b>	<b>97.4</b>	<b>98.8</b>	<b>98.8</b>	<b>98.6</b>	<b>100.6</b>	<b>101.1</b>	<b>99.8</b>	<b>100.0</b>	<b>99.7</b>	<b>101.8</b>	<b>102.4</b>	<b>101.0</b>
<b>Non-OPEC supply</b>													
OECD	24.9	25.7	28.3	29.3	29.6	29.7	30.9	29.9	31.3	31.4	31.9	32.4	31.7
Americas	20.6	21.5	24.1	25.1	25.6	25.7	26.4	25.7	26.7	27.0	27.4	27.7	27.2
Europe	3.9	3.8	3.8	3.8	3.6	3.6	3.9	3.7	4.0	3.9	3.9	4.2	4.0
Asia-Pacific	0.4	0.4	0.4	0.4	0.5	0.5	0.6	0.5	0.6	0.5	0.6	0.6	0.6
DCs	13.5	13.4	13.5	13.4	13.4	13.6	13.8	13.6	13.9	13.9	13.9	14.1	14.0
FSU	13.9	14.1	14.3	14.6	14.2	14.3	14.4	14.4	14.2	14.5	14.4	14.7	14.4
Other Europe	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
China	4.1	4.0	4.0	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1
Processing gains	2.2	2.2	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3
<b>Total non-OPEC</b>	<b>58.7</b>	<b>59.5</b>	<b>62.5</b>	<b>63.8</b>	<b>63.8</b>	<b>64.2</b>	<b>65.6</b>	<b>64.3</b>	<b>65.9</b>	<b>66.3</b>	<b>66.8</b>	<b>67.7</b>	<b>66.7</b>
OPEC NGLs	4.6	4.6	4.8	4.8	4.8	4.7	4.9	4.8	4.8	4.8	4.8	4.8	4.8
<b>(b) Total non-OPEC+OPEC NGLs</b>	<b>63.3</b>	<b>64.1</b>	<b>67.2</b>	<b>68.6</b>	<b>68.6</b>	<b>68.9</b>	<b>70.5</b>	<b>69.1</b>	<b>70.8</b>	<b>71.2</b>	<b>71.6</b>	<b>72.5</b>	<b>71.5</b>
<b>OPEC crude oil production</b>	<b>32.2</b>	<b>32.0</b>	<b>31.9</b>	<b>30.5</b>	<b>30.0</b>	<b>29.4</b>	<b>29.6</b>	<b>29.9</b>	<b>29.1</b>	<b>29.1</b>	<b>29.1</b>	<b>29.1</b>	<b>29.1</b>
<b>Total supply</b>	<b>95.5</b>	<b>96.1</b>	<b>99.1</b>	<b>99.1</b>	<b>98.6</b>	<b>98.3</b>	<b>100.1</b>	<b>99.0</b>	<b>99.9</b>	<b>100.3</b>	<b>100.7</b>	<b>101.6</b>	<b>100.6</b>
<b>Balance</b>	<b>(0.2)</b>	<b>(1.3)</b>	<b>0.3</b>	<b>0.3</b>	<b>(0.0)</b>	<b>(2.3)</b>	<b>(1.0)</b>	<b>(0.8)</b>	<b>(0.1)</b>	<b>0.5</b>	<b>(1.2)</b>	<b>(0.8)</b>	<b>(0.4)</b>
(a)-(b) call on OPEC	32.4	33.3	31.6	30.2	30.0	31.7	30.6	30.6	29.2	28.6	30.3	29.9	29.5
OPEC production	(0.2)	(1.3)	0.3	0.3	(0.0)	(2.3)	(1.0)	(0.8)	(0.1)	0.5	(1.2)	(0.8)	(0.4)
<b>OECD closing stock levels (mbbls)</b>													
Commercial	3,007	2,860	2,870	2,877	2,939	2,936							
SPR	1,601	1,569	1,552	1,557	1,549	1,544							
Total	4,608	4,429	4,422	4,434	4,488	4,480							
Oil in water	1,102	1,025	1,058	1,013	995	1,012							
Days of forward consumption in OECD, days													
Commercial on land stocks	63	60	60	61	61	60							
SPR	34	33	32	33	32	32							
Total	97	92	92	94	93	92							

Source: OPEC, Bloomberg, RHB

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## January Production Cuts: Preliminary Numbers

For Jan 2020, OPEC participating members' production cuts averaged 1.475mbpd, with production averaging at 24.75mbpd, or 126%-compliant:

- i. Saudi Arabia's production cut was 933kbpd, with production averaging 9.7mbpd, or 191% compliant;
- ii. Five other countries complied with or exceeded their production cut agreements: Algeria, Angola, Congo, Equatorial Guinea and United Arab Emirates;
- iii. Iraq has started to lower its crude oil production, now at 4.58mbpd, it cut 73kbpd from the Oct 2018 production baseline. It was 38%-compliant. Kuwait's production averaged 2.67mbpd; it was 99%-compliant.
- iv. Two countries increased their production levels: Gabon's production was 200kbpd (+13kbpd from Oct-18 baseline) and Nigeria (1.83mbpd, +92kbpd from Oct-18 baseline).

OPEC non-participating members' production declined by 1.9mbpd in total from Oct 2018's baseline. The declines mainly came from Iran (-1.3mbpd) and Venezuela (-311kbpd), as a result of US sanctions. As a result of further unrest, Libya's crude oil production plunged to 790kbpd (from 1.2mbpd in Dec), indicating a cut of 324kbpd kbpd from the aforementioned baseline. Non-participating members are exempt from the production cut agreement.

Russia's crude oil production data shows an increase in in production at 11.28mbpd (+0.01mbpd MoM). However this includes both condensate and crude oil. No information has been released by Russia about the breakdown in crude oil vs condensate.

We exclude non-participating members in this analysis due to limited data.

Figure 5: January 's production cuts compliance was a high of 126% for OPEC's participating members

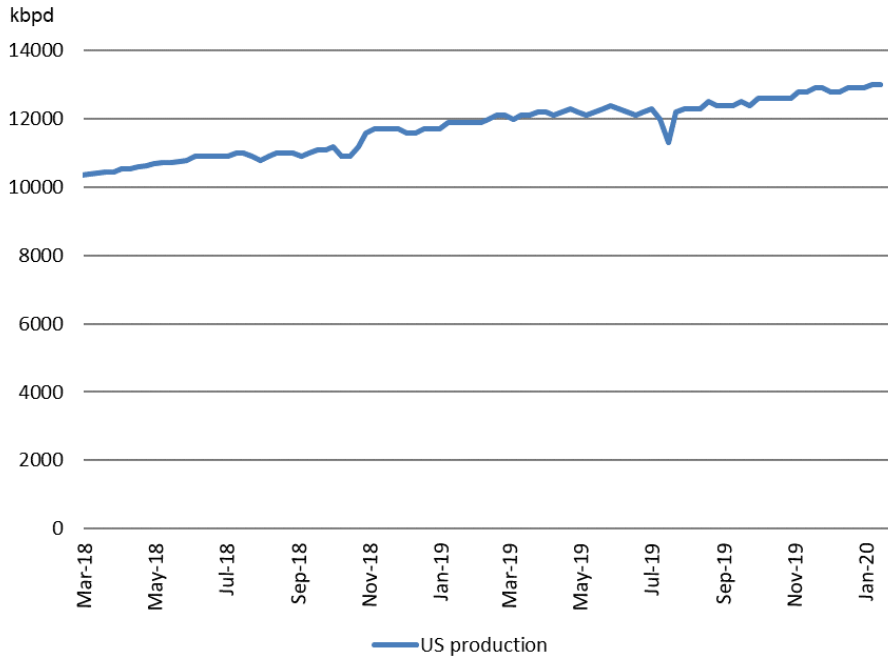
(kbpd)	Oct 18 baseline Production (revised)	OPEC+ Declaration of Cooperation			Jan-20 Production	Production cut from baseline	Jan-20 Compliance
		Voluntary adjustment	% of adjustment	Voluntary production			
<b>OPEC 11, participating members</b>							
Algeria	1,057	-44	-4.2%	1,013	1,010	-47	107%
Angola	1,528	-47	-3.1%	1,481	1,320	-208	443%
Congo	325	-14	-4.3%	311	310	-15	107%
Eq. Guinea	127	-5	-3.9%	122	120	-7	140%
Gabon	187	-8	-4.3%	179	200	13	-163%
Iraq	4,653	-191	-4.1%	4,462	4,580	-73	38%
Kuwait	2,809	-140	-5.0%	2,669	2,670	-139	99%
Nigeria	1,738	-74	-4.3%	1,664	1,830	92	-124%
Saudi Arabia	10,633	-489	-4.6%	10,144	9,700	-933	191%
UAE	3,168	-156	-4.9%	3,012	3,010	-158	101%
<b>OPEC 10</b>	<b>26,225</b>	<b>(1,168)</b>	<b>-4.5%</b>	<b>25,057</b>	<b>24,750</b>	<b>-1475</b>	<b>126%</b>
<b>Non-participating OPEC members</b>							
Iran	3,296			3,296	1,990	-1,306	
Venezuela	1,171			1,171	840	-331	
Libya	1,114			1,114	790	-324	
<b>Non-part. OPEC members</b>	<b>5,581</b>			<b>5,581</b>	<b>3,620</b>	<b>-1,961</b>	
<b>Total OPEC 13</b>	<b>31,806</b>	<b>-1168</b>	<b>-3.7%</b>	<b>30,638</b>	<b>28,370</b>	<b>-3,436</b>	<b>294%</b>

Source: Bloomberg, RHB

## Global Crude Oil Production Data

The charts below depict the latest preliminary production data from Bloomberg, unless otherwise stated. Official production numbers will be provided by OPEC in the middle of every month.

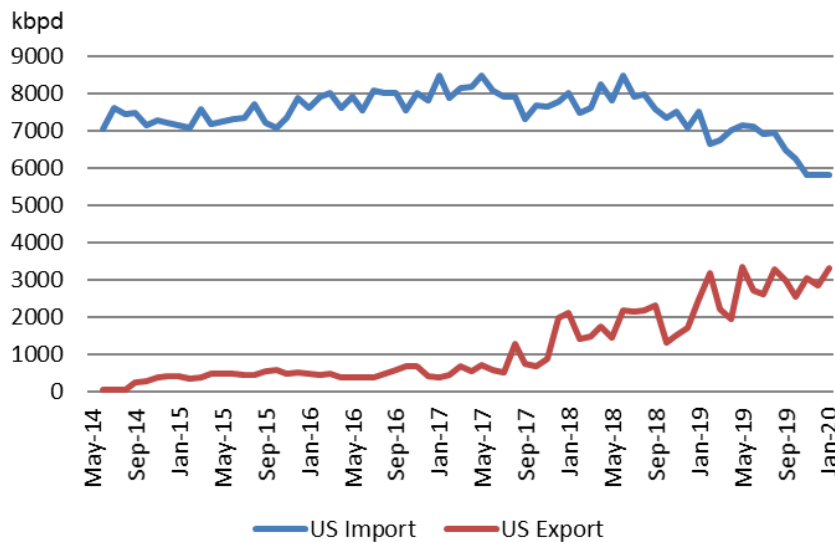
**Figure 6: US crude oil production increased by 125kbpd MoM at 12.9mbpd**



◆ For Jan 2020, US crude oil production average production stood at 12.9mbpd (+125kbpd MoM), with shale oil production averaging 9.3mbpd (+44kbpd MoM, +1mbpd YoY)

Source: US Energy Information Administration, RHB

**Figure 7: US crude oil exports were up at 3.3mbpd, imports declined to 5.8mbpd**

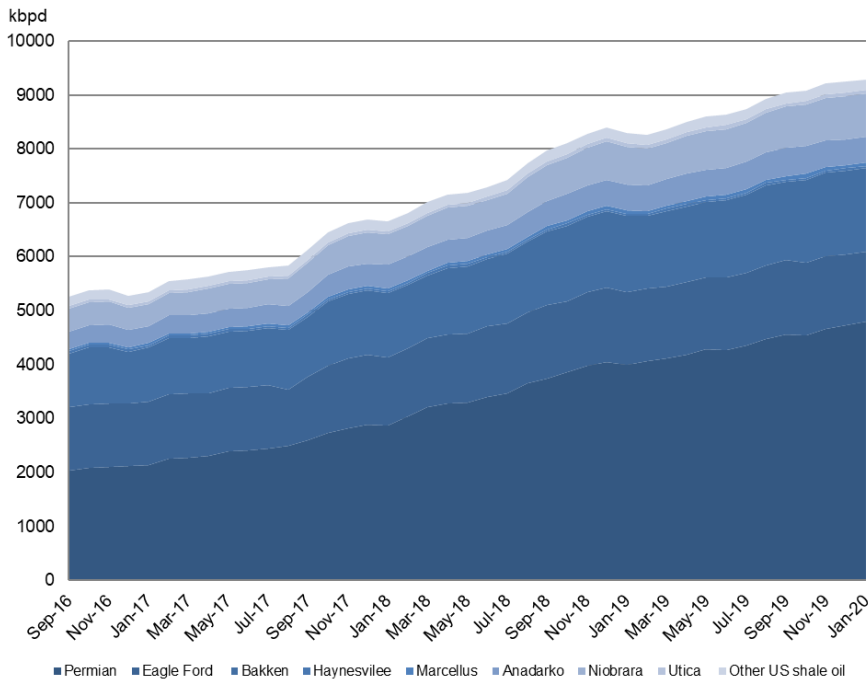


◆ January crude oil export averaged 3.3mbpd (+842kbpd YoY, +460kbpd MoM).  
 ◆ January US crude oil imports averaged 5.8mbpd (-1.7mbpd YoY, 0mbpd MoM).

Source: Bloomberg, RHB



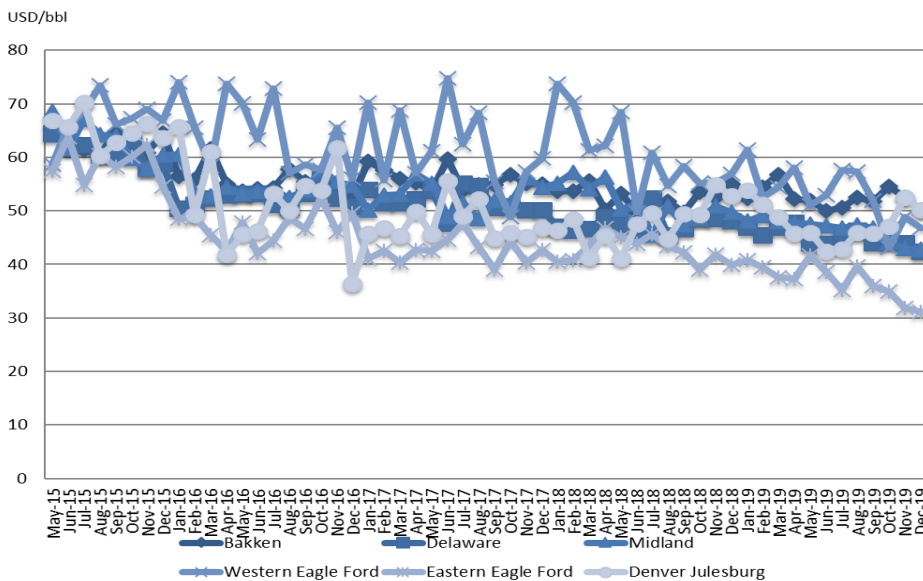
Figure 8: US shale production relatively stable MoM



- ◆ January shale oil production averaged 9.3mbpd (+44kbpd MoM, +1mbpd YoY).
- ◆ US shale production growth is toning down, as producers may be reaching a limit on accelerating output and minimising costs. Shale oil producers remain focused on cash flow and capital discipline

Source: Bloomberg, RHB

Figure 9: US shale oil producers' costs averaged USD43.93 per bbl for Dec 2019



- ◆ For Dec 2019, the US shale breakeven point averaged at USD43.93 per bbl (-USD1.50 per bbl MoM, -USD6.48 per bbl YoY)
- ◆ The Bakken Formation and Denver Julesburg Basin's breakeven points are among the highest, at more than USD50.00 per bbl, while the Eastern Eagle Ford Basin has one of the lowest: c.USD32.00 per bbl

Source: Bloomberg, RHB

5 February 2020

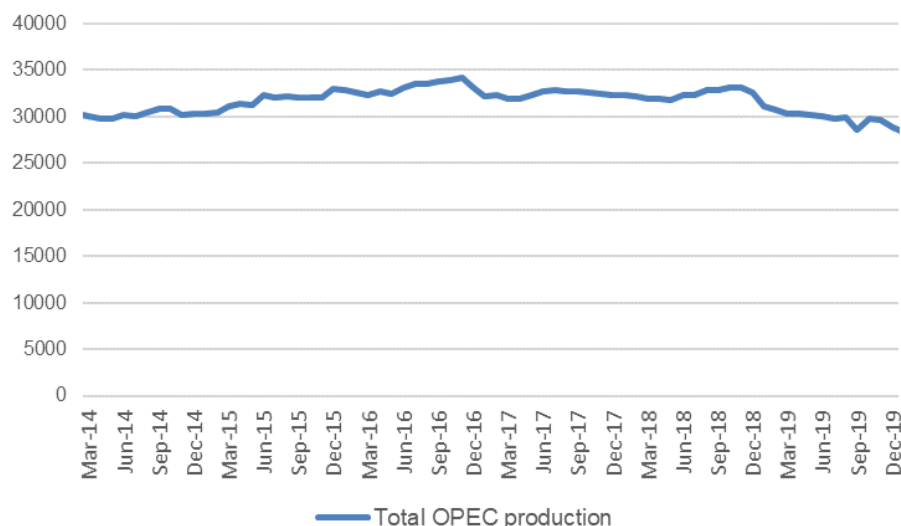
Energy | Regional Oil &amp; Gas

**Figure 10: Russia's crude oil and condensate production increased in January**

Source: Bloomberg, Reuters, Russia Energy Ministry, RHB

- ◆ Russia's crude oil and condensate increased to 11.28mbpd (+0.01mbpd MoM). However, no information has been released by Russia about the breakdown in crude oil production vs condensate
- ◆ With Russia launching new gas fields in the Arctic, East Siberia and the new gas pipeline to China, gas condensate production should increase in 2020
- ◆ According to a Reuters report, 2020 oil and condensate production is expected to range 555-565m tonnes, or c.11.12-11.32mbpd (using the conversion rate of 7.33bbl per tonne of oil). 2019 oil and condensate output stood at 560.2m tonnes

Russia's Oil Minister Alexander Novak was quoted as saying that there are risks to Russia's crude oil production, with rising production costs and dwindling crude oil reserves. Russia's crude oil production could peak by as early as 2021, due to high tax and costs unless benefits to exploration and tax incentives are introduced. At the current production rate, and if there are no incentives to stimulate exploration and production activities, Russia's production could drop by 44% to 310mt pa by 2035. However, including condensate, production could increase to over 12mbpd by 2035.

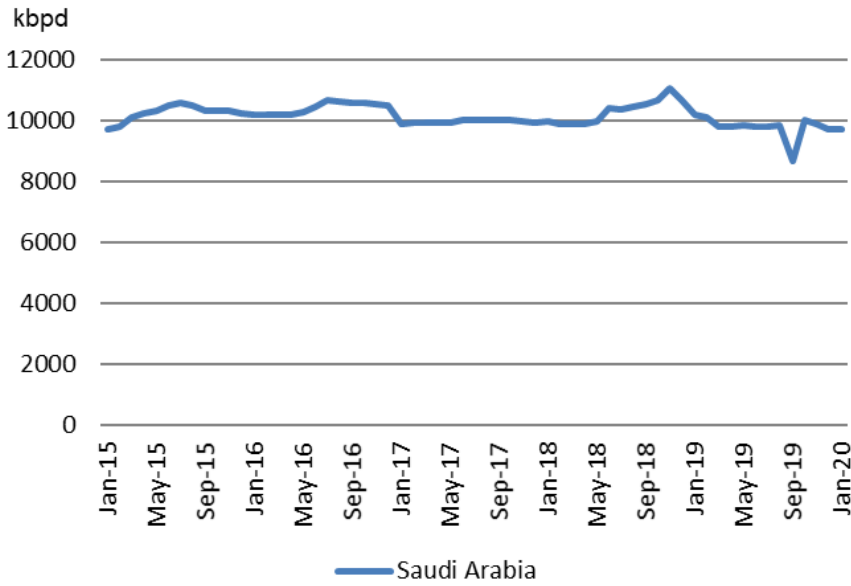
**Figure 11: OPEC production saw further declines to stand at 28.37mbpd**

Source: Bloomberg, RHB

- ◆ OPEC's total production averaged 28.37mbpd (-500kbpd MoM, -2.69mbpd YoY). OPEC-10's production stood at 24.7mbpd, or 1.475mbpd lower than Oct 2018's baseline – this was 126%-compliant



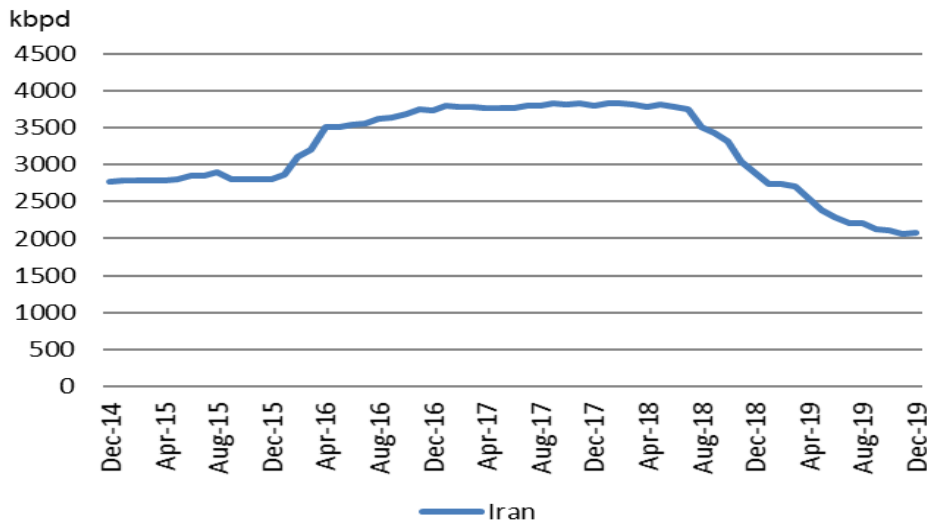
**Figure 12: Saudi Arabia's production dropped further to average 9.7mbpd**



- ◆ Saudi Arabia's production fell further to 9.7mbpd (-30kbpd MoM, -500kbpd YoY). It was 191%-compliant, with the production cut at 933kbpd from the Oct 2018 baseline
- ◆ There was a dip in production in Sep 2019 due to the drone attacks on the kingdom's critical oil facilities, where its crude oil production fell to 8.65mbpd

Source: Bloomberg, RHB

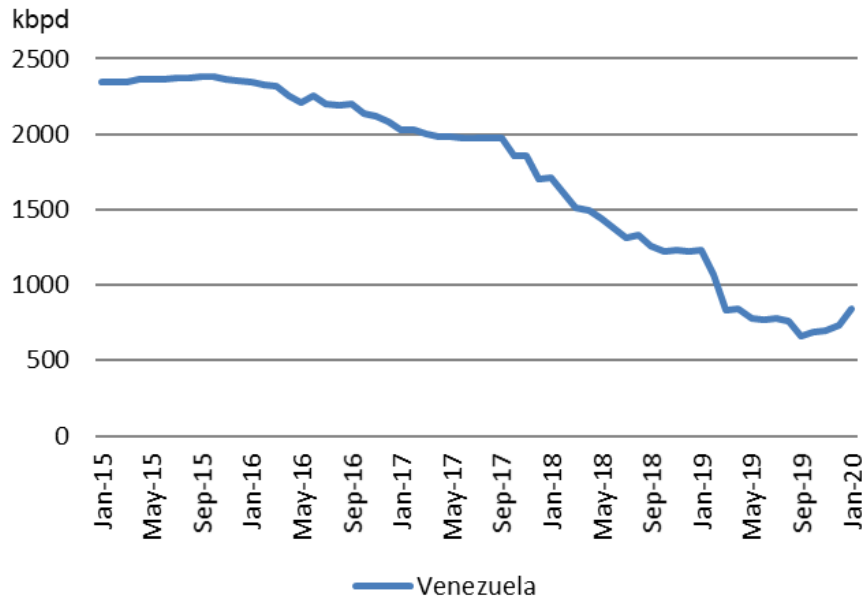
**Figure 13: Iran's crude oil production fell further to 1.99mbpd**



- ◆ Iran's average crude oil production stood at 1.99mbpd (-90kbpd MoM, 750kbpd YoY) – the decline in production was the result of US sanctions. Its production was 1.3mbpd lower than Oct 2018's baseline. Iran was exempted from the voluntary production cuts
- ◆ Iran's exports averaged 20kbpd as at Jan 2020, with no exports to China, India, and the EU. For 2019, exports averaged 598kbpd (-1.2mbpd YoY)

Source: Bloomberg, RHB

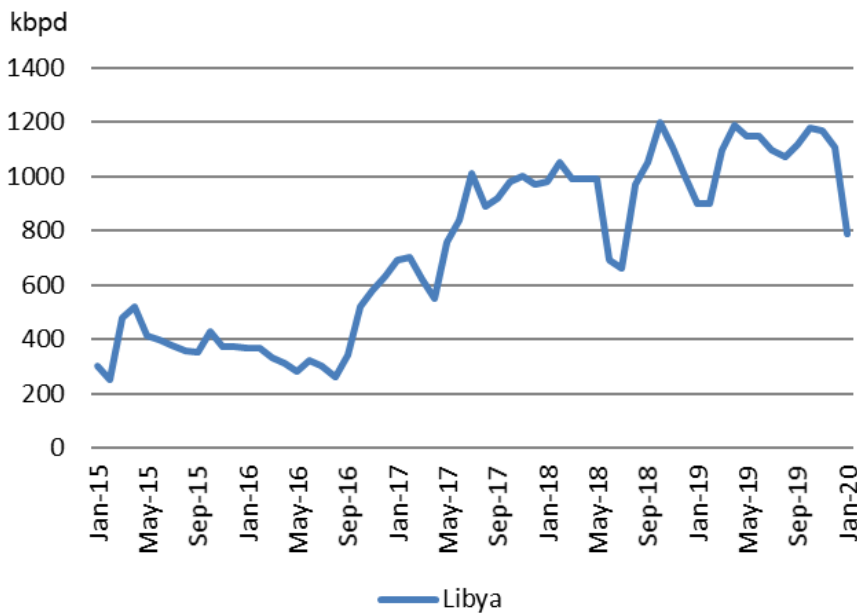
**Figure 14: Venezuela's oil production is on an uptrend now at 840kbpd**



- ◆ Venezuela's production was at 840kbpd (+110kbpd MoM, -390kbpd YoY). This was as the US imposed sanctions on President Nicolas Maduro's government. It was 331kbpd lower than the Oct 2018 baseline. Venezuela is exempted from the voluntary production cuts agreement
- ◆ PDVSA expects crude oil production to rebound above 1.2mbpd in 2020. This will come from Orinoco belt in eastern Venezuela (661kbpd, where Chevron, Rosneft and CNPC have their major operations); Western division (298kbpd) and 273kbpd from eastern fields north of the Orinoco belt

Source: Bloomberg, RHB

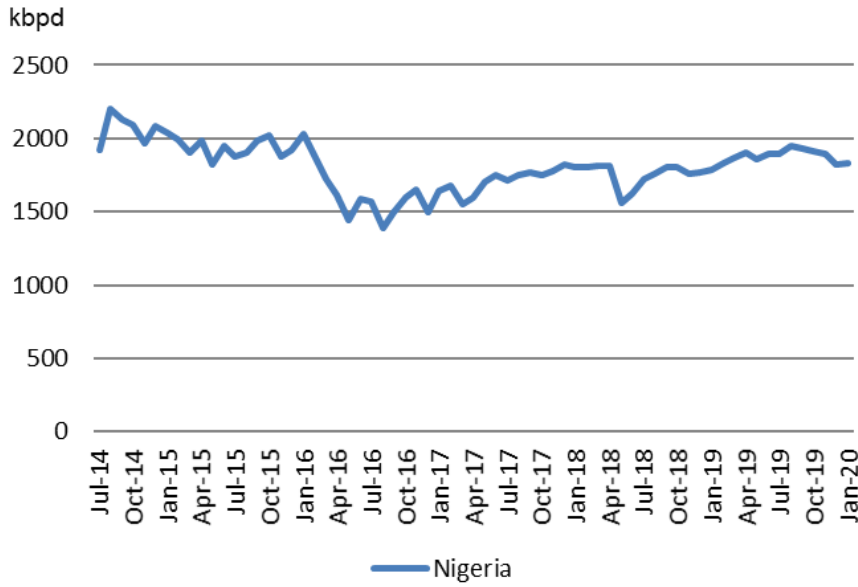
**Figure 15: Libya's oil production dived due to unrest, to 790kbpd**



- ◆ Libya's production plunged to 790kbpd (-320kbpd MoM, -110kbpd YoY) – this was 324kbpd lower than Oct 2018's production numbers. The country is exempt from production cuts
- ◆ The unrest in Libya: General Khalifa Haftar in Apr 2019 launched an offensive to take control of Tripoli, killing 2,000 people in the process. The crisis escalated in Jan 2020, after blockades of ports and oil fields, it has declared force majeure on oil supplies. The country has no crude oil storage facilities, thus export market has been halted. The national oil company has since been told that it will not receive a budget to expand oil production
- ◆ Crude oil production reached a peak of 1.2mbpd – highest level in six years – before the current decline

Source: Bloomberg, RHB

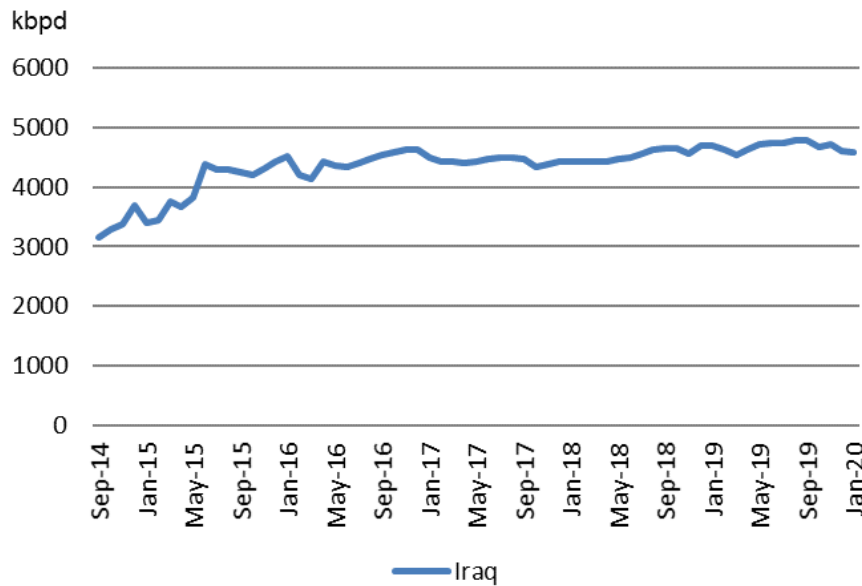
**Figure 16: Nigeria's oil production averaged 1.8mbpd (+10kbpd MoM)**



◆ For Jan 2020, Nigeria's crude oil production averaged 1,830kbpd (+10kbpd MoM, +40kbpd YoY). It increased production by 92kbpd from Oct-18 baseline.

Source: Bloomberg, RHB

**Figure 17: Iraq's oil production fell slightly to 4.58mbpd**



◆ Jan 2020's crude oil production averaged 4,580kbpd (-30kbpd MoM, -110kbpd YoY). Iraq cut production by 73kbpd from Oct 18 baseline – it was 38%-compliant

Source: Bloomberg, RHB

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