

# Oil Market Report

**13 December 2018**

## HIGHLIGHTS

- **Our estimate of 2018 oil demand growth is largely unchanged at 1.3 mb/d.** Non-OECD data for September and October confirm an expected slowdown due to relatively high prices, although OECD demand has been slightly revised upwards, for 4Q18.
- **Our projection for oil demand growth in 2019 remains also unchanged, at 1.4 mb/d,** as the impact of lower prices is offset by lower economic growth assumptions, weakening currencies and downward revisions to certain countries e.g. Venezuela.
- **Global oil supply fell 360 kb/d month-on-month (m-o-m) in November to 101.1 mb/d** due lower output in the North Sea, Canada and Russia. Cuts from January reduce non-OPEC production growth for 2019 by 415 kb/d, to 1.5 mb/d, compared with 2.4 mb/d in 2018.
- **OPEC crude oil output rose 100 kb/d m-o-m to 33.03 mb/d in November** as Saudi Arabia and the UAE reached record highs, more than offsetting a sharp loss from Iran. The group agreed to cut output by 0.8 mb/d from January.
- **Global refining throughput growth came to a halt in 4Q18,** with annual losses in Latin America and Europe only just offset by gains in the US, Middle East and China. Lower crude prices helped margins, although the gasoline-focused US Gulf Coast lagged behind.
- **OECD commercial stocks rose in October for the fourth consecutive month, by 5.7 mb, to 2 872 mb.** They were above the five-year average for the first time since March. NGL and feedstock inventories hit a historic high whereas fuel oil stocks fell to a record low.
- **Having fallen by 30% since early October, oil prices stabilised with ICE Brent close to \$60/bbl and NYMEX WTI at \$52/bbl.** Weak demand weighed on gasoline and naphtha markets. Freight rates to transport crude and products have soared to multi-year highs.

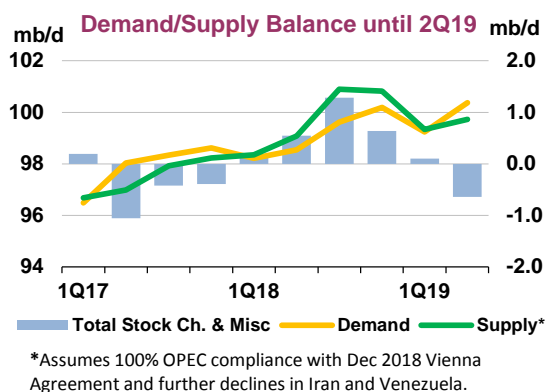
# TABLE OF CONTENTS

HIGHLIGHTS .....	I
A floor under prices? .....	4
DEMAND .....	5
Summary .....	5
Fundamentals .....	6
OECD .....	6
Non-OECD .....	10
Other Non-OECD .....	13
Venezuela's oil demand collapses .....	14
SUPPLY .....	16
Summary .....	16
OPEC and non-OPEC allies agree new cut .....	17
OPEC crude oil supply .....	17
Qatar quits OPEC .....	19
Non-OPEC overview .....	20
Permian, Bakken takeaway to remain tight next year .....	22
Alberta orders mandatory output cuts to shore up domestic crude prices .....	24
REFINING .....	28
Summary .....	28
Margins .....	29
OECD refinery throughput .....	30
Non-OECD refinery throughput .....	32
STOCKS .....	34
Summary .....	34
Recent OECD industry stock changes .....	35
OECD Americas .....	35
OECD Europe .....	36
OECD Asia Oceania .....	37
Other stock developments .....	37
PRICES .....	40
Market overview .....	40
Futures markets .....	40
Spot crude oil prices .....	41
Spot product prices .....	43
Freight .....	45
TABLES .....	47

## A floor under prices?

OPEC and some non-OPEC oil ministers met in Vienna last week and agreed to curb their output by 1.2 mb/d in order to address growing surpluses in the market. The agreement aims to achieve relative stability and to bring the market towards balance. So far, the Brent crude oil price seems to have found a floor, remaining close to \$60/bbl much where it was when the ministers met. Recently, prices have been volatile; in early October Brent crude oil prices reached \$86/bbl on concerns that the market could tighten as Iranian sanctions were implemented. Then, thirty-seven days later, they fell back to \$58/bbl as producers more than met the challenge of replacing Iranian and other barrels. Such volatility is not in the interests of producers or consumers.

Last week's meeting reminded us that the Big Three of oil – Russia, Saudi Arabia and the United States – whose total liquids production now comprises about 40% of the global total, are the dominant players. Cooperation between Russia and Saudi Arabia is now the basis of production management with these two countries having a large capacity to swing output one way or the other. For them, prices falling further would place their budgets under great stress. The third, non-playing member, so to speak, of the Big Three is the United States, which is now the world's biggest crude oil producer and where production management is a company level, economically driven decision. The United States is also the world's biggest consumer and lower prices are welcome, although its producers will want to see them stay high enough to encourage further investment.



While the US was not present in Vienna, nobody could ignore its growing influence. On the day OPEC ministers sat down to talk, an important piece of data was published: according to the Energy Information Administration, in the week to 30 November the US was a net *exporter* of crude and products for the first time since at least 1991. The number, 211 kb/d, is modest and even if it proves to be an isolated data point, the long-term trend is clear. In 2018 to date, US net imports have averaged 3.1 mb/d. Ten years ago, just ahead of the shale revolution, the figure was 11.1 mb/d. As production grows inexorably, so will net imports decline and rising US exports will provide competition in many markets, including to some of the countries meeting in Vienna last week.

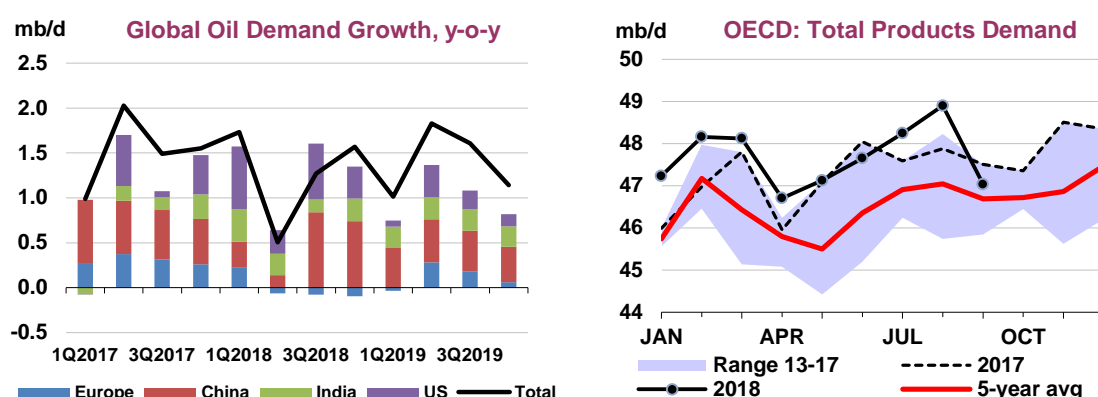
New data in this *Report* shows little change to our 2018 estimates. Demand will grow by 1.3 mb/d although there are signs that the pace is slackening in some countries as the impact of higher prices lingers. As far as non-OPEC supply is concerned, our estimate for growth is revised slightly up to 2.4 mb/d. For 2019, our demand growth outlook remains at 1.4 mb/d even though oil prices have fallen back considerably since the early October peak. Some of the support provided by lower prices will be offset by weaker economic growth globally, and particularly in some emerging economies. For non-OPEC supply, we have revised our growth forecast for 2019 down by 415 kb/d, partly due to expected cuts from Russia agreed last week, and to lower growth in Canada. The serious build-up of stocks arising from logistical bottlenecks in Alberta led the provincial government to act very decisively to curb output. The initial cutback of 325 kb/d for three months to allow blockages to ease is a significant development. Apart from lowering production, it should narrow the differential between West Canadian Select prices and WTI, which reached \$51/bbl at one point.

Time will tell how effective the new production agreement will be in re-balancing the oil market. The next meeting of the Vienna Agreement countries takes place in April, and we hope that the intervening period is less volatile than has recently been the case.

# DEMAND

## Summary

Our estimate of 2018 oil demand growth remains unchanged at 1.3 mb/d. Data for September and October confirm an expected slowdown due to relatively high prices seen until October. Subsequently, Brent crude oil prices have moved from \$86/bbl to below \$60/bbl, before recovering slightly after last week's meeting of OPEC and some non-OPEC producers. The forward curve has shifted downwards and the lower prices that are implied should help support demand in 2019. The price impact is offset, however, by slightly lower economic growth assumptions and downward revisions to our projections for certain countries impacted by weak currencies, such as Turkey, or countries facing collapse, such as Venezuela. Therefore, our projection for oil demand growth in 2019 remains unchanged, at 1.4 mb/d.



Following modest growth of 0.5 mb/d year-on-year in 2Q18, global oil demand is estimated to have expanded by 1.3 mb/d in 3Q18 and 1.6 mb/d in 4Q18. Both OECD European and Asian demand continue to be impacted by higher oil prices and a slowdown in economic activity. US demand, by contrast, is robust, supported by new petrochemical projects. Provisional data for September and October, however, point to a significant slowdown in the US, particularly for gasoline. Total OECD demand is expected to increase by 380 kb/d in 2018, with growth slowing to 290 kb/d in 2019.

### Global Oil Demand (2017-2019)

	(million barrels per day)*														
	1Q17	2Q17	3Q17	4Q17	2017	1Q18	2Q18	3Q18	4Q18	2018	1Q19	2Q19	3Q19	4Q19	2019
Africa	4.4	4.3	4.2	4.3	4.3	4.3	4.3	4.2	4.4	4.3	4.5	4.4	4.3	4.4	4.4
Americas	30.9	31.6	31.7	31.8	31.5	31.6	31.7	32.3	32.1	31.9	31.6	32.1	32.4	32.2	32.1
Asia/Pacific	34.1	34.0	33.4	34.6	34.0	34.9	34.5	34.2	35.6	34.8	35.7	35.3	35.0	36.4	35.6
Europe	14.5	15.0	15.5	15.2	15.0	14.8	14.9	15.4	15.1	15.1	14.8	15.2	15.6	15.2	15.2
FSU	4.3	4.5	4.7	4.6	4.5	4.5	4.6	5.0	4.7	4.7	4.6	4.8	5.0	4.9	4.8
Middle East	8.2	8.7	8.9	8.2	8.5	8.1	8.5	8.7	8.3	8.4	8.1	8.6	8.9	8.2	8.4
<b>World</b>	<b>96.5</b>	<b>98.0</b>	<b>98.3</b>	<b>98.6</b>	<b>97.9</b>	<b>98.2</b>	<b>98.5</b>	<b>99.6</b>	<b>100.2</b>	<b>99.2</b>	<b>99.2</b>	<b>100.4</b>	<b>101.2</b>	<b>101.3</b>	<b>100.6</b>
Annual Chg (%)	1.0	2.1	1.5	1.6	1.6	1.8	0.5	1.3	1.6	1.3	1.0	1.9	1.6	1.1	1.4
Annual Chg (mb/d)	1.0	2.0	1.5	1.5	1.5	1.7	0.5	1.3	1.6	1.3	1.0	1.8	1.6	1.1	1.4
Changes from last OMR (mb/d)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.2	0.1	0.0	0.1	0.0	-0.1	-0.1	0.0

\* Including biofuels

Non-OECD demand has picked up noticeably according to recent data. China is still showing robust growth, and some other non-OECD countries, after summer weakness, are seeing a slight recovery. Non-OECD demand is projected to increase by 895 kb/d in 2018, accelerating to 1.1 mb/d in 2019, with Asia contributing 880 kb/d and 905 kb/d, respectively. China and India are, as always, the main sources of growth.

### Global Demand by Product

(thousand barrels per day)

	Demand			Annual Chg (kb/d)		Annual Chg (%)	
	1Q18	2Q18	3Q18	2Q18	3Q18	2Q18	3Q18
LPG & Ethane	12,858	11,986	12,145	316	794	2.7	7.0
Naphtha	6,441	6,119	6,198	-79	-66	-1.3	-1.1
Motor Gasoline	25,396	26,035	26,417	-188	71	-0.7	0.3
Jet Fuel & Kerosene	7,755	7,656	7,986	344	336	4.7	4.4
Gas/Diesel Oil	27,973	28,442	28,138	194	-9	0.7	0.0
Residual Fuel Oil	6,960	6,949	7,021	-164	-22	-2.3	-0.3
Other Products	10,836	11,350	11,709	82	168	0.7	1.5
<b>Total Products</b>	<b>98,219</b>	<b>98,538</b>	<b>99,613</b>	<b>504</b>	<b>1,272</b>	<b>0.5</b>	<b>1.3</b>

## Fundamentals

The outlook for the global economy has slightly deteriorated since the last *Report*. At the same time, there has been a sharp decrease in Brent futures prices. Global oil demand projections have been left unchanged for 2019, as the impact of lower prices is offset by the slight downward revision to GDP growth and significant downward revisions to demand in Turkey and Venezuela.

In this *Report*, we have incorporated the OECD economic outlook released at the end of November. Global economic growth is projected at 3.7% in 2018 (the same outlook as that of the International Monetary Fund) and 3.5% in 2019 (vs. 3.7% for the IMF). Fiscal policies are expected to remain accommodating in 2019, supporting demand growth. However, uncertainty about trade tensions and tighter monetary policies continue to affect confidence and investment. The OECD's lower expectation for the world economy in 2019 could reduce oil demand growth by roughly 100 kb/d.

Economic growth in the OECD area is projected to slow from 2.4% in 2018 to 2.1% in 2019. Euro area growth, projected at 1.9% in 2018, is set to ease to 1.8% in 2019. US growth could slow from 2.9% in 2018 to 2.7% in 2019. Non-OECD growth is set to remain at 4.7% in 2018 and 2019. In China, growth will slow from 6.6% in 2018 to 6.3% in 2019. India's growth will remain relatively robust at 7.5% in 2018 and 7.3% in 2019. Brazil's growth is set to accelerate from 1.2% in 2018 to 2.1% in 2019.

Meanwhile, our oil price assumption is lower than in our last two *Reports*. The futures curve sets Brent prices at \$71.50/bbl in 2018, falling to \$62.50/bbl in 2019. This year, average Brent prices used in the forecast are 32% up on the 2017 average, but Brent assumptions are 13% lower year-on-year (y-o-y) on average in 2019. While price changes have had a negative impact on demand in 2018, they are likely to be a supporting factor in 2019.

Temperatures could also have a strong impact on oil demand during the northern hemisphere winter. In our forecast, we assume they will be close to their 10-year average level. In November, temperatures were relatively low in the US, with heating degree days 18% above the ten-year average. In Europe, they were mixed: close to the average in France and slightly higher in Germany. The weather was particularly mild in Japan, with November heating degree days 22% lower than the ten-year average.

## OECD

We have complete data for OECD countries for September 2018. Preliminary estimates are available for Mexico, Japan, Korea and some European countries for October 2018. US weekly data are available through to the end of November.



## OECD Demand based on Adjusted Preliminary Submissions - October 2018

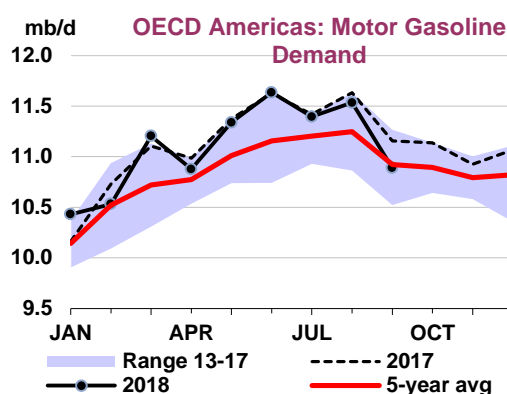
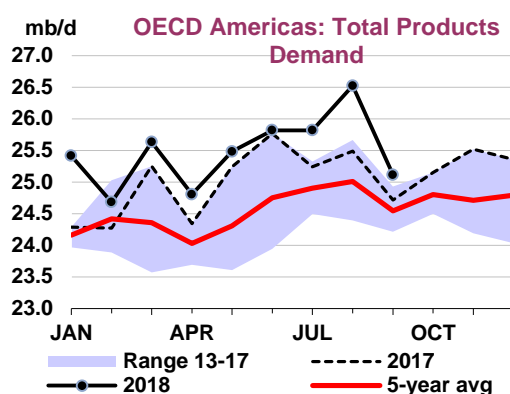
(million barrels per day)

	Gasoline		Jet/Kerosene		Diesel		Other Gasoil		RFO		Other		Total Products	
	mb/d	% pa	mb/d	% pa	mb/d	% pa	mb/d	% pa	mb/d	% pa	mb/d	% pa	mb/d	% pa
<b>OECD Americas*</b>	<b>10.95</b>	<b>-1.7</b>	<b>2.06</b>	<b>0.2</b>	<b>4.93</b>	<b>5.1</b>	<b>0.55</b>	<b>-5.8</b>	<b>0.61</b>	<b>-13.9</b>	<b>6.42</b>	<b>7.5</b>	<b>25.52</b>	<b>1.5</b>
US50	9.19	-1.8	1.75	0.0	4.02	4.8	0.18	4.8	0.28	-12.3	4.97	9.2	20.40	2.0
Canada	0.83	-2.1	0.16	0.9	0.29	1.9	0.30	-12.1	0.05	22.6	0.83	-0.1	2.46	-1.7
Mexico	0.77	-0.8	0.08	2.9	0.39	15.0	0.04	-4.4	0.15	-31.4	0.49	7.1	1.92	0.5
<b>OECD Europe</b>	<b>1.87</b>	<b>0.5</b>	<b>1.55</b>	<b>2.3</b>	<b>5.26</b>	<b>1.7</b>	<b>1.58</b>	<b>11.9</b>	<b>0.90</b>	<b>-3.6</b>	<b>3.51</b>	<b>-2.2</b>	<b>14.68</b>	<b>1.3</b>
Germany	0.40	-4.0	0.23	9.0	0.75	-2.0	0.38	8.0	0.09	-11.5	0.49	-12.2	2.35	-2.7
United Kingdom	0.28	2.3	0.32	-2.0	0.51	-0.6	0.15	8.4	0.03	8.7	0.28	-3.9	1.57	-0.1
France	0.20	15.3	0.17	6.8	0.75	5.0	0.30	25.0	0.05	-3.0	0.30	4.4	1.77	8.8
Italy	0.15	2.6	0.12	7.8	0.52	5.4	0.10	4.9	0.08	-4.5	0.36	0.2	1.34	3.2
Spain	0.11	1.3	0.15	-1.0	0.48	2.0	0.17	9.5	0.16	0.6	0.25	-5.4	1.31	0.8
<b>OECD Asia &amp; Oceania</b>	<b>1.45</b>	<b>-3.7</b>	<b>0.81</b>	<b>-2.9</b>	<b>1.39</b>	<b>3.2</b>	<b>0.46</b>	<b>-0.6</b>	<b>0.50</b>	<b>0.7</b>	<b>2.84</b>	<b>-7.4</b>	<b>7.46</b>	<b>-3.4</b>
Japan	0.82	-3.0	0.40	-7.9	0.44	8.5	0.32	0.6	0.25	2.5	1.34	-0.4	3.57	-0.7
Korea	0.18	-15.9	0.20	4.8	0.34	-9.9	0.09	-7.1	0.22	-1.1	1.25	-14.9	2.27	-11.3
Australia	0.31	0.8	0.16	0.8	0.54	8.8	0.00	0.0	0.01	-9.4	0.17	-0.1	1.20	3.9
<b>OECD Total</b>	<b>14.27</b>	<b>-1.6</b>	<b>4.43</b>	<b>0.3</b>	<b>11.58</b>	<b>3.3</b>	<b>2.60</b>	<b>5.3</b>	<b>2.01</b>	<b>-6.0</b>	<b>12.77</b>	<b>1.1</b>	<b>47.65</b>	<b>0.6</b>

\* Including US territories

Recent OECD data highlight the strength of gasoil consumption and the continued weakness of gasoline. The response of gasoline to the higher prices we saw until early October is stronger than for gasoil, which is more linked to industrial and trade activity. Gasoline demand in OECD countries declined by 2.3% in September, after a fall of 0.5% in August. Provisional data point to another decline in October, this time by 1.6%. By contrast, diesel demand, which was flat y-o-y in September, is estimated to have increased by 3.3% in October, supported by strong US deliveries.

## OECD Americas



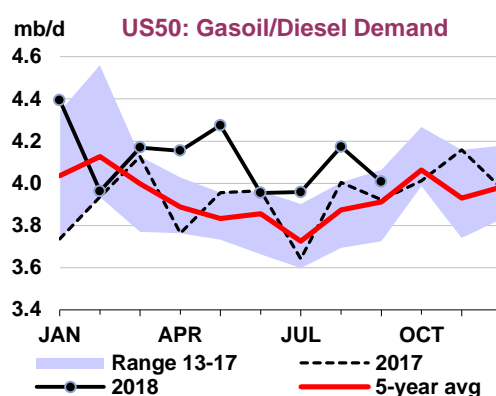
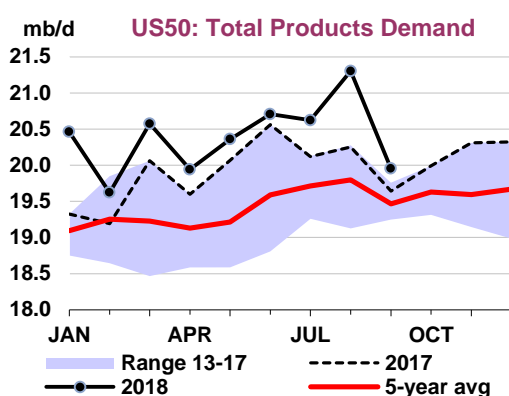
North American oil demand growth accelerated from 250 kb/d y-o-y in 2Q18 to 675 kb/d in 3Q18, of which LPG accounted for 415 kb/d and gasoil 235 kb/d. Gasoline demand, by contrast, is estimated to have contracted by 130 kb/d in 3Q18, due to much higher prices than in 3Q17.

US oil demand rose by 625 kb/d in 3Q18, supported by strong data for LPG/ethane and gasoil. Gasoline was particularly weak at the end of the summer, according to the latest Department of Energy data.

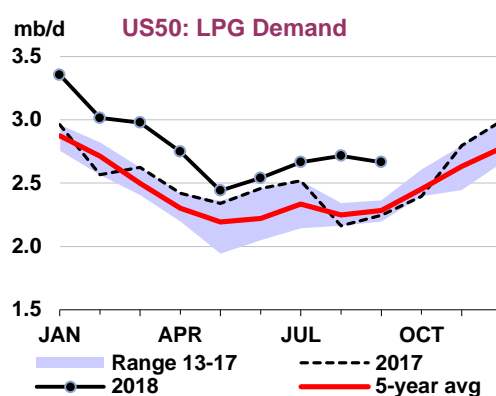
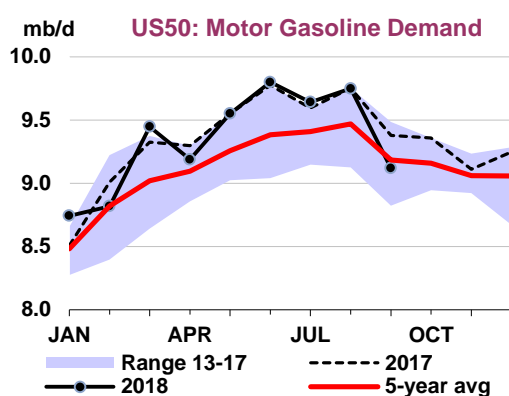
LPG/ethane demand growth reached 370 kb/d in 3Q18, due to the start-up of petrochemicals projects and the comparison with the hurricane-impacted 3Q17. Recently, the Exxon Mobil Baytown (TX) 1.5 mt/y cracker started operations and the Indorama Lake Charles (LA) 420 kt/y cracker is due to start up before the end of the year. In 2019, many more crackers are set to come on stream, including Formosa Point Comfort, (TX) with 1.2 mt/y of capacity, Shintech Plaquemine (LA), 500 kt/y, Sasol Lake Charles (LA)

1.5 mt/y, all expected in 2Q19. Other crackers are due to start in the second half of the year, including Westlake-Lotte in Lake Charles (LA) in 3Q19 with 1 mt/y of capacity and Dow/Dupont Freeport (TX) 500 kt/y in 4Q19. Cold weather at the start of the year, a comparison with the hurricane-impacted summer of 2017 and the startup of petrochemical projects have pushed y-o-y growth in LPG/ethane demand this year to 300 kb/d in 2018. New projects will support growth of 120 kb/d in 2019.

Gasoil demand rose by 190 kb/d y-o-y in 3Q18, after growth of 235 kb/d in 2Q18. The pace is expected to slow to 115 kb/d in 4Q18. Transport by trucks is increasing strongly, reflecting growth in e-commerce and strong industrial production. The trucking industry is benefitting from booming shale oil production, with trucks used in the transport of equipment and materials. In addition, due to bottlenecks in pipeline capacities, trucks are used to move crude oil out of the producing areas. Roughly one third of the crude oil produced in Texas is moved by trucks according to the Texas Railroad Commission, including oil moved from fields to local storage hubs and feeder pipelines. New pipelines coming on stream in 2019 should reduce the trucked volumes.



The picture for gasoline in the US has been getting weaker for some time now. National average prices were close to \$3/gal for most of the summer period, only recently falling to close to \$2.50/gal. In September, demand fell by 260 kb/d y-o-y and preliminary data show further falls of 165 kb/d in October and 10 kb/d in November. US vehicle miles travelled declined by 0.8% y-o-y in September, according to the Federal Highway Administration.



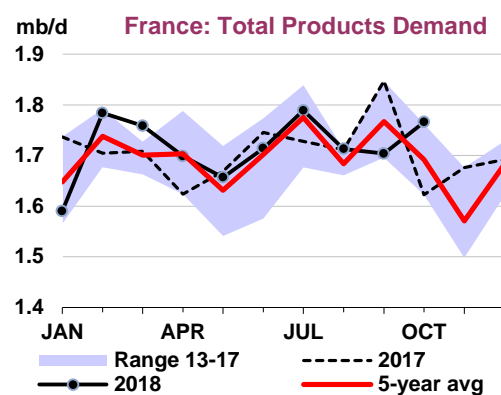
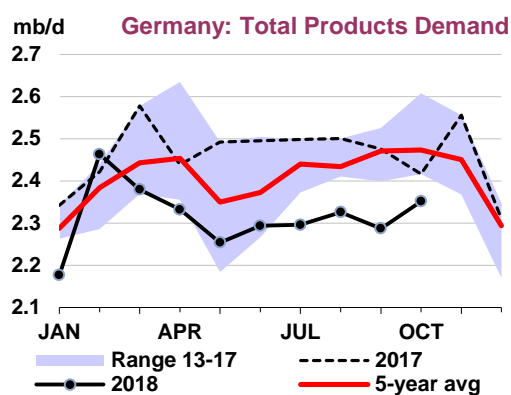
Jet fuel demand rose by 60 kb/d y-o-y in September, after growth of 95 kb/d in August. Domestic passenger air traffic (revenue passenger kilometres or RPK) rose by 6.3% in September, but the pace slowed to 4.3% in October. Weekly data point to stagnant kerosene deliveries in October and a rebound in November.

**Canada's** oil demand rose by 15 kb/d y-o-y in 3Q18, as strong overall gasoil demand offset weaker data for naphtha, gasoline and diesel. **Mexico's** oil demand rose by 20 kb/d y-o-y in 3Q18, supported by strong LPG and diesel, although gasoline remains subdued, declining by 40 kb/d.

**Total North American** oil demand, after rising strongly by 480 kb/d in 2018, will see a marked slowdown in 2019, easing to 235 kb/d. A large part of the increase will come from LPG/ethane (135 kb/d) while gasoline demand should recover on lower prices, after a weak 2018.

## OECD Europe

European oil demand dropped by 80 kb/d y-o-y in 3Q18. Naphtha demand dropped by 150 kb/d and gasoil demand declined by 80 kb/d. Gasoline recorded very small growth (15 kb/d). Provisional data point, however, to strong October deliveries, up 190 kb/d y-o-y, after a weak September when deliveries were down 550 kb/d. Gasoil demand, in particular, is estimated to have increased by 260 kb/d in October after a drop of 290 kb/d in September.



**German** oil demand declined by 190 kb/d in 3Q18, on very low naphtha and gasoil numbers. Naphtha demand dropped by 100 kb/d and gasoil demand by 85 kb/d. There was a further decline of 65 kb/d in October, according to preliminary data.

Very low water levels on the River Rhine during the summer have constrained supplies of gasoil to Germany and Switzerland. Freight rates for barges reached an all-time high on 30 November, although they have since fallen back as water levels have risen. The market will be better supplied in December and heating oil deliveries should post strong month-on-month (m-o-m) increases.

Diesel demand has been reduced by concerns about pollution and we have seen lower sales of new vehicles and falling resale values. New European Union (EU) certification requirements introduced in September also slowed car sales, which fell by 7.4% y-o-y in October and 9.9 % in November. Gasoline-fuelled cars accounted for 62% of passenger car sales in October and diesel cars 32%.

Oil demand in **France** declined by 145 kb/d y-o-y in September but provisional data point to a strong rebound in October (145 kb/d). Gasoil demand, in particular, is estimated to have increased by 95 kb/d in October after a drop of 135 kb/d in September.

In **Italy**, oil demand rose by 40 kb/d in October, according to preliminary data, after being roughly flat in September. Italy is a rare exception in Europe, showing continuing strong gasoil demand in recent months.

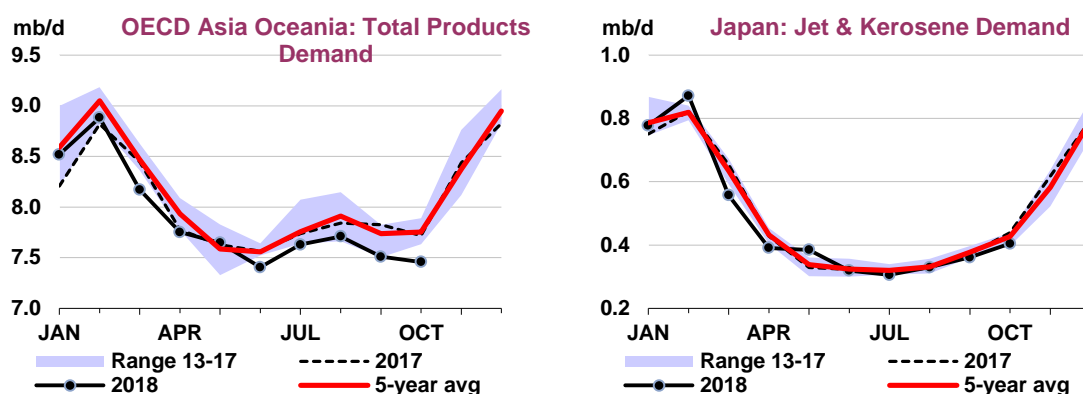
Overall, European oil demand fell by 80 kb/d in 3Q18 and is projected to drop by a further 95 kb/d in 4Q18. For the year as a whole demand will fall by a negligible 5 kb/d, but there will be a solid rebound in 2019 of 120 kb/d.



## OECD Asia Oceania

Asia Oceania demand declined by 185 kb/d y-o-y in 3Q18 and preliminary data point to a further drop of 175 kb/d in 4Q18.

**Japanese** oil demand fell by 100 kb/d y-o-y in 3Q18, on lower deliveries of almost all products. GDP fell by an annualised rate of 2.5% in 3Q18, according to recent data, mainly due to a series of natural disasters. These included; flooding in western Japan in July, the Jebi typhoon and a 6.6 magnitude earthquake in Hokkaido. The Jebi typhoon affected air traffic in September with RPK falling by 5%. In October, air passenger traffic rose by 1.7% y-o-y but jet kerosene deliveries remained 35 kb/d below the previous year. Demand has been impacted recently by warmer than normal weather, with the number of heating degree days in November 22% lower than average. Total oil demand in Japan is projected to fall by 90 kb/d in 2018 and 60 kb/d in 2019.



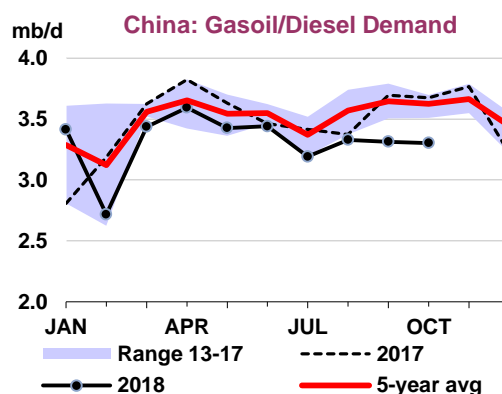
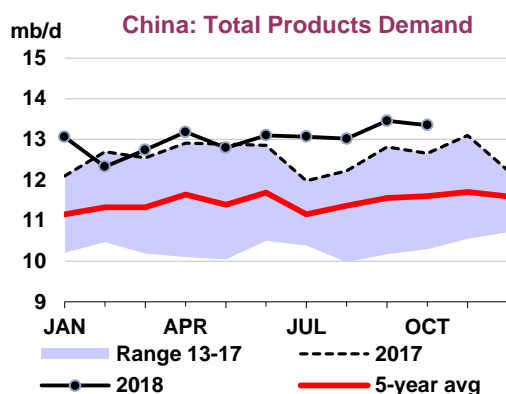
**South Korean** demand dropped by 90 kb/d in 3Q18. The economy is very dependent on exports and has started to suffer from wider trade tensions. Exports fell 8.2% y-o-y in September, but bounced back in October, increasing by 22.7% y-o-y with Korean Thanksgiving holidays taking place in October last year and in September this year explaining the big swings. In November, exports rose by 4.5%. The government has nevertheless announced measures to support growth, as well as fuel tax cuts for six months to spur consumption. In **Australia**, oil demand rose by 15 kb/d y-o-y in 3Q18 on strong diesel deliveries. Gasoline demand is contracting on higher prices and the growth in gasoil deliveries has weakened in September.

OECD Asia Oceania oil demand is expected to contract by 95 kb/d in 2018 and by 65 kb/d in 2019. The outlook for 2019 is heavily dependent on the progress of trade talks between China and the United States.

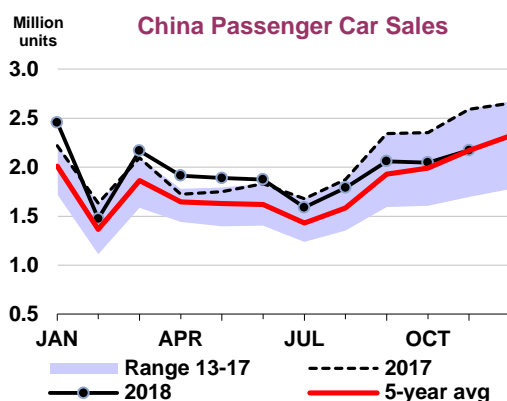
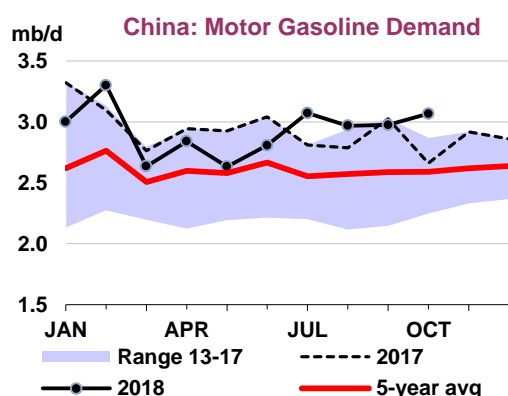
## Non-OECD

### China

**China's** apparent oil demand increased strongly in 3Q18 by 840 kb/d y-o-y, and this trend has continued in October when growth is estimated to have been 700 kb/d. Diesel demand declined however, by 215 kb/d in 3Q18 and 370 kb/d in October. Here, there is a negative impact on demand from stronger environmental policies and the move to more consumer-oriented development. Kerosene demand, by contrast, rose strongly in 3Q18 (145 kb/d) but fell slightly in October. The buoyant aviation sector has been a major supportive factor as shown by a 12.2% increase in domestic RPK in October.



Gasoline apparent demand rose by a strong 405 kb/d y-o-y in October, after 3Q18 growth of 130 kb/d. However, demand is underpinned by the car market and in November sales dropped by 16.1% y-o-y, the fifth consecutive monthly decline and the steepest drop in more than six years. Weaker consumer confidence and a government crackdown on peer-to-peer lending platforms may explain the decline. Peer-to-peer platforms reportedly facilitated \$36 billion of auto loans in 2017, more than a fifth of the total, according to Bloomberg, but lending dropped by 20% in the first half of 2018. The rising popularity of car sharing services is also reducing the need to buy a new car.



We expect total oil demand growth in China to be 505 kb/d in 2018, followed by a slower, but still substantial, rate of 445 kb/d in 2019.

### China: Demand by Product

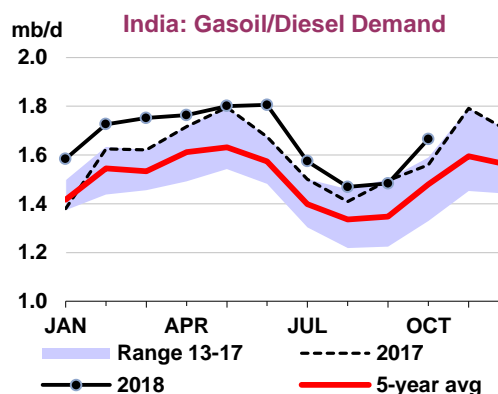
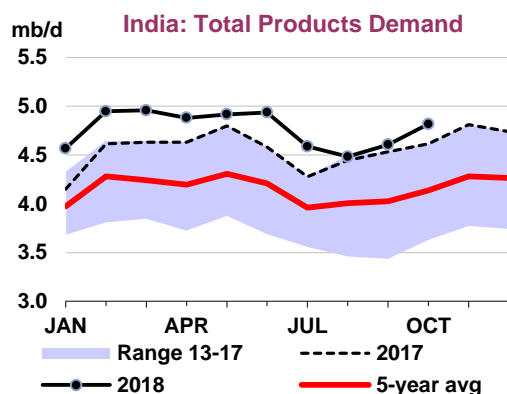
(thousand barrels per day)

	Demand			Annual Chg (kb/d)		Annual Chg (%)	
	2017	2018	2019	2018	2019	2018	2019
LPG & Ethane	1,523	1,660	1,767	137	107	9.0	6.5
Naphtha	1,171	1,209	1,311	38	102	3.2	8.4
Motor Gasoline	2,927	2,939	3,004	12	65	0.4	2.2
Jet Fuel & Kerosene	710	793	850	83	57	11.7	7.2
Gas/Diesel Oil	3,473	3,364	3,400	-109	36	-3.1	1.1
Residual Fuel Oil	437	426	438	-11	12	-2.4	2.7
Other Products	2,336	2,689	2,756	353	67	15.1	2.5
<b>Total Products</b>	<b>12,576</b>	<b>13,080</b>	<b>13,526</b>	<b>504</b>	<b>446</b>	<b>4.0</b>	<b>3.4</b>

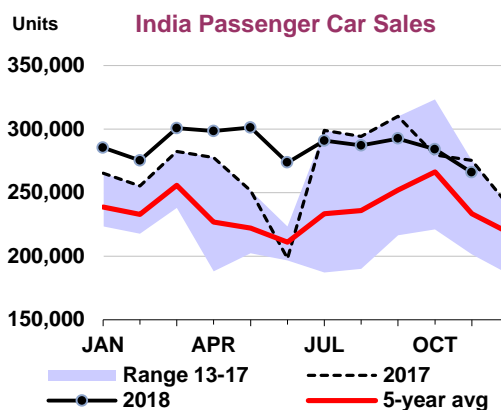
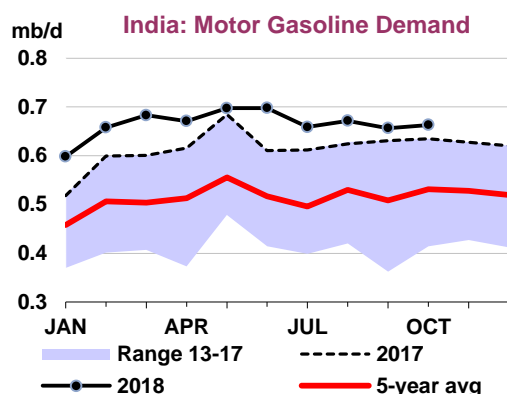
## India

Indian oil demand grew very strongly in 1H18 at 300 kb/d y-o-y but in 3Q18 the pace slackened to only 140 kb/d. Higher international oil prices coupled with the falling value of the rupee versus the US dollar were significant factors and end-users were hit hard. Data for October show a modest acceleration to 205 kb/d. Gasoil demand rose by 105 kb/d y-o-y in October and gasoline by 30 kb/d. Lower international oil prices more recently and government action to support hard-pressed consumers have played a part.

Rising demand for jet fuel, boosted by the booming aviation sector, has offset the fall in domestic kerosene use. India's domestic RPK grew by 15% in October, after 19.8% in September.



Overall, oil demand is likely to grow by 245 kb/d in 2018, and the pace will be similar in 2019 at 235 kb/d.

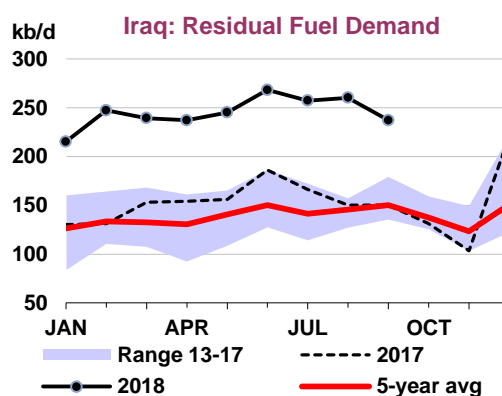
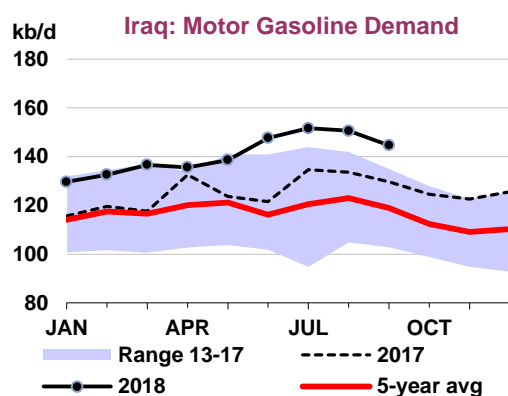


### India: Demand by Product

	(thousand barrels per day)						
	Demand			Annual Chg (kb/d)		Annual Chg (%)	
	2017	2018	2019	2018	2019	2018	2019
LPG & Ethane	740	796	834	56	38	7.5	4.8
Naphtha	283	311	323	28	11	9.9	3.7
Motor Gasoline	615	669	701	54	32	8.8	4.8
Jet Fuel & Kerosene	242	249	266	7	18	2.9	7.2
Gas/Diesel Oil	1,605	1,682	1,755	78	72	4.9	4.3
Residual Fuel Oil	145	145	150	0	6	-0.1	3.8
Other Products	938	963	1,020	24	57	2.6	6.0
<b>Total Products</b>	<b>4,568</b>	<b>4,815</b>	<b>5,049</b>	<b>247</b>	<b>235</b>	<b>5.4</b>	<b>4.9</b>

## Other Non-OECD

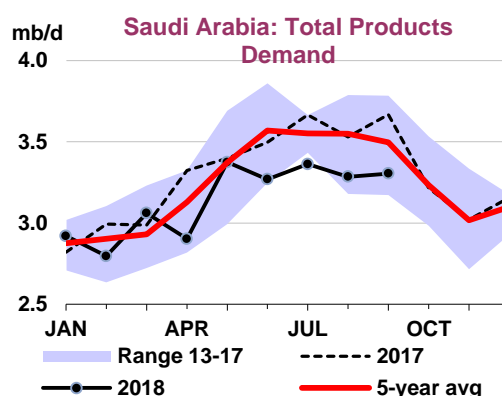
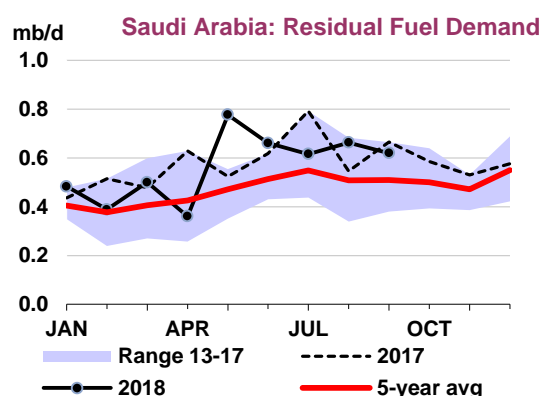
**Iraq's** oil demand is rising strongly, increasing by 160 kb/d y-o-y in September, led by fuel oil, gasoil and gasoline. Crude oil direct use is the exception, falling sharply as it is replaced by fuel oil and natural gas imported from Iran. Fuel oil demand rose by 90 kb/d y-o-y in September while the direct use of oil fell to 35 kb/d.



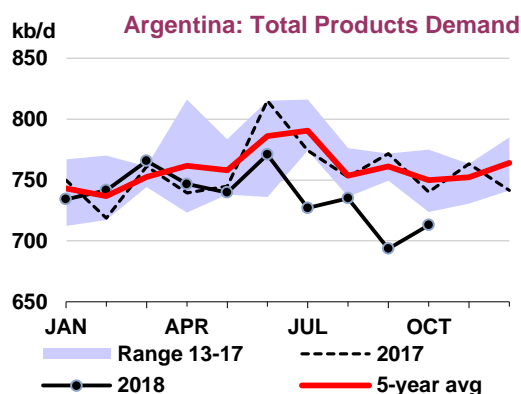
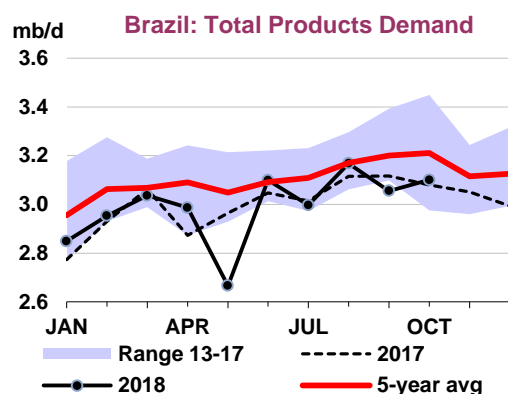
## Non-OECD: Demand by Region

	Demand			Annual Chg (kb/d)		Annual Chg (%)	
	1Q18	2Q18	3Q18	2Q18	3Q18	2Q18	3Q18
Africa	4,331	4,285	4,151	-9	-36	-0.2	-0.9
Asia	26,408	26,912	26,537	593	972	2.3	3.8
FSU	4,481	4,632	4,963	121	235	2.7	5.0
Latin America	6,331	6,355	6,467	-104	-98	-1.6	-1.5
Middle East	8,110	8,452	8,655	-222	-223	-2.6	-2.5
Non-OECD Europe	734	744	774	-7	11	-0.9	1.4
<b>Total Products</b>	<b>50,395</b>	<b>51,381</b>	<b>51,546</b>	<b>372</b>	<b>861</b>	<b>0.7</b>	<b>1.7</b>

**Saudi Arabian** oil demand continues to be extremely weak, declining by 365 kb/d y-o-y in September, with sharp drops for gasoil, crude oil and fuel oil demand. Gasoil demand declined by 70 kb/d y-o-y, reflecting a slowing economy and a reduction in its use in power generation. Crude oil direct use was reported at 535 kb/d in September, a 125 kb/d y-o-y reduction.



We expect Saudi oil demand to decline by 120 kb/d in 2018, after a drop of 25 kb/d in 2017. With a boost from government spending, demand is likely to start growing again in 2019, albeit by only 50 kb/d.



**Brazilian** oil demand rose by 20 kb/d y-o-y in October, with gasoil rising by 30 kb/d and gasoline increasing by 35 kb/d. Overall, demand is stagnant with growth of only 5 kb/d in both 2018 and 2019.

**Argentina's** oil demand dropped by 30 kb/d y-o-y in October, reflecting the brutal slowdown in economic activity and the impact of a major currency depreciation. Total oil demand was 50 kb/d below last year in 3Q18.

### Non-OECD: Demand by Product

	(thousand barrels per day)						
	Demand			Annual Chg (kb/d)		Annual Chg (%)	
	1Q18	2Q18	3Q18	2Q18	3Q18	2Q18	3Q18
LPG & Ethane	6,808	6,866	6,887	176	363	2.6	5.6
Naphtha	2,962	2,895	2,896	83	153	2.9	5.6
Motor Gasoline	11,342	11,246	11,549	-172	208	-1.5	1.8
Jet Fuel & Kerosene	3,264	3,329	3,451	181	197	5.8	6.0
Gas/Diesel Oil	14,194	14,831	14,496	-39	-170	-0.3	-1.2
Residual Fuel Oil	4,783	4,903	4,891	-139	-80	-2.8	-1.6
Other Products	7,042	7,312	7,376	283	190	4.0	2.6
<b>Total Products</b>	<b>50,395</b>	<b>51,381</b>	<b>51,546</b>	<b>372</b>	<b>861</b>	<b>0.7</b>	<b>1.7</b>

**Egyptian** oil demand continued to weaken in September, declining by 15 kb/d y-o-y. Gasoil was down 10 kb/d, and fuel oil dropped by 15 kb/d. Egypt oil demand remained weak after last summer's cuts to subsidies and as the country is expanding its use of natural gas.

**Pakistan's** oil demand declined by 140 kb/d y-o-y in 3Q18 and 135 kb/d in October. Fuel oil deliveries dropped by 105 kb/d in 3Q18 and 115 kb/d in October, reflecting the switch to LNG in the power sector. LNG imports rose from 4.9 mt in 2017 to close to 7 mt in 2018.

### Venezuela's oil demand collapses

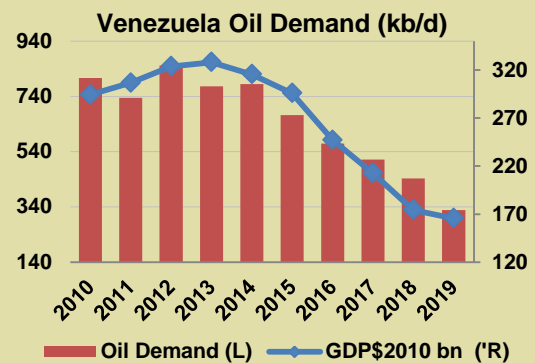
In this *Report*, we have sharply reduced our projections of oil demand for Venezuela in 2019. The economy has halved in five years and domestic oil demand has fallen accordingly. Emigration is also having a big impact. The economy is set to continue to deteriorate: the latest IMF outlook projects a contraction in real GDP growth of 18% in 2018 and 5% in 2019, while inflation reaches 1,370,000%.

The crisis has triggered massive emigration. The United Nations (UN) estimated in August 2018 that 2.3 million citizens have left the country since 2015 (from a population of 32.8 million). The UN High Commissioner for Refugees estimated in October that 5 000 people were leaving Venezuela every day.



### Venezuela's oil demand collapses (continued)

In addition, the country has been experiencing fuel shortages due to a dramatic drop in refinery production. Reuters, quoting a Petroleos de Venezuela S.A. (PDVSA) document, reported that domestic oil demand has fallen to 325 kb/d in recent months, with PDVSA only supplying 270 kb/d to the market. PDVSA has boosted imports since the start of 2018 (through swaps of product-for-crude), buying roughly half of the country's gasoline needs, but bottlenecks prevented swift deliveries of imported fuel. The government has announced plans to increase gasoline prices from the lowest levels in the world.

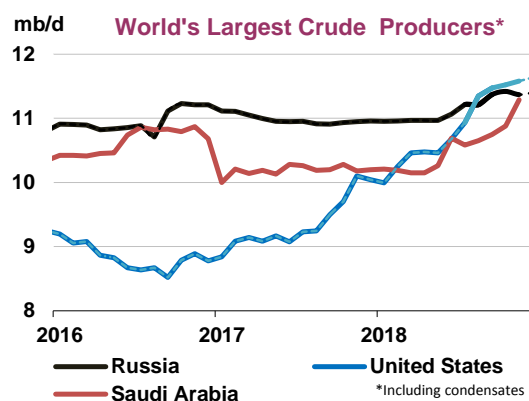
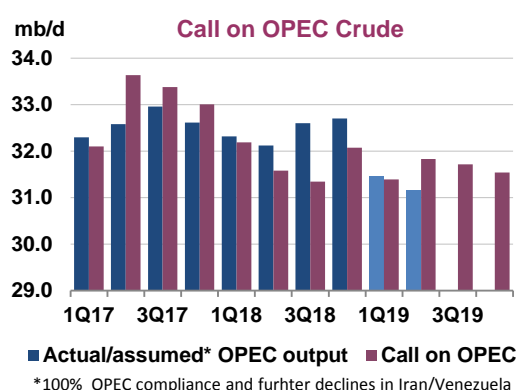


We now estimate that Venezuela's oil demand could drop from 445 kb/d in 2018 to 330 kb/d in 2019. Any estimate is obviously partly speculative due to the difficulties in obtaining regular, reliable data. Thus far, we have been cautious in our estimates, but it is now clear that a major downgrade is justified.

# SUPPLY

## Summary

Global oil supply fell 360 kb/d month-on-month (m-o-m) in November to 101.1 mb/d due to outages in the North Sea and Canada and as Russia pulled back from record levels. Saudi Arabia and the UAE, however, cranked up to historic highs in the run-up to a new OPEC/non-OPEC agreement to curb output (see *OPEC and non-OPEC allies agree new supply cut*).



The backdrop to the supply cut decision was one of abundant output with the world's top three producers all pumping at or near their highest ever. Since May, when US sanctions were announced and Vienna Agreement producers began to unwind cuts, global oil output has soared by a net 2.2 mb/d. The US, with its relentless growth, has provided more than 1.1 mb/d, Saudi Arabia has ramped up by over 1 mb/d and Russia has increased by 400 kb/d.

## OPEC / Non-OPEC Output<sup>1</sup>

(million barrels per day)

	Oct 2018 Supply	Nov 2018 Supply	Sustainable Production Capacity <sup>5</sup>	Spare Capacity vs Nov Supply <sup>6</sup>		Oct 2018 Supply	Nov 2018 Supply
Algeria	1.07	1.07	1.07	0.00	Azerbaijan	0.78	0.80
Angola	1.48	1.45	1.58	0.13	Kazakhstan	1.81	1.95
Ecuador	0.52	0.52	0.54	0.02	Mexico	1.99	2.00
Congo	0.33	0.33	0.34	0.01	Oman	1.00	1.00
Equatorial Guinea	0.11	0.12	0.13	0.01	Russia	11.80	11.75
Gabon	0.18	0.16	0.19	0.03	Malaysia	0.70	0.71
Iraq	4.65	4.60	4.84	0.24	Brunei	0.11	0.11
Kuwait	2.76	2.78	2.92	0.14	Bahrain	0.21	0.21
Nigeria	1.65	1.67	1.72	0.05	Sudan	0.07	0.07
Saudi Arabia	10.65	11.06	12.04	0.98	South Sudan	0.10	0.13
UAE	3.22	3.33	3.35	0.02	Others <sup>4</sup>	1.19	1.24
<b>Total OPEC 11</b>	<b>26.62</b>	<b>27.09</b>			<b>Total Non-OPEC</b>	<b>18.58</b>	<b>18.75</b>
Iran <sup>2</sup>	3.32	3.01	3.85	0.84			
Libya <sup>2</sup>	1.12	1.07	1.07	0.00			
Venezuela <sup>2</sup>	1.26	1.25	1.25	0.00			
Qatar <sup>3</sup>	0.61	0.61	0.62	0.01			
<b>Total OPEC</b>	<b>32.93</b>	<b>33.03</b>	<b>35.51</b>	<b>1.64</b>			

<sup>1</sup> OPEC figures are crude oil only, Non-OPEC figures are total oil supply (including NGLs).

<sup>2</sup> Iran, Libya, Venezuela exempt from cuts. <sup>3</sup> Qatar leaves OPEC from 1 Jan 2019.

<sup>4</sup> Bahrain, Brunei, Malaysia, Sudan and South Sudan.

<sup>5</sup> Capacity levels can be reached within 90 days and sustained for an extended period.

<sup>6</sup> Spare capacity excludes Iranian crude supply that is offline due to sanctions.

As a result, stocks have been building with the potential for significant oversupply next year. By agreeing a cut of 1.2 mb/d, and additional output curbs in Canada (see *Alberta orders mandatory output cuts to shore up domestic crude prices*), producers may go some way towards restoring balance to the world market. Forecast non-OPEC supply growth for 2019 has been reduced by 415 kb/d since last month's *Report*, to 1.5 mb/d, compared with growth of 2.4 mb/d expected this year. In November, non-OPEC production, at 61.1 mb/d, was up 1.9 mb/d on a year ago.

As for OPEC, the group's crude production in November rose by 100 kb/d to 33.03 mb/d in the run-up to the meeting in Vienna. Saudi Arabia's unprecedented crude oil production of nearly 11.1 mb/d left it tied with Russia as the world's second biggest producer of crude and condensates. That rank may prove short-lived as production in December is expected to fall to around 10.7 mb/d.

### OPEC and non-OPEC allies agree new cut

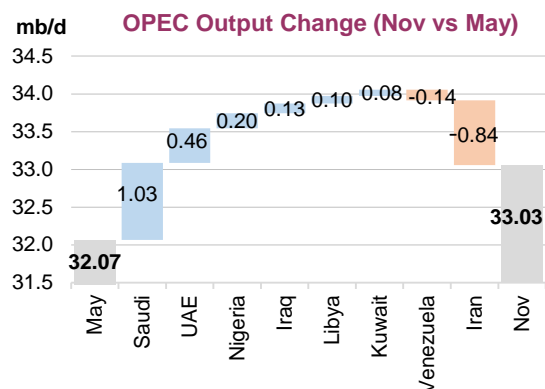
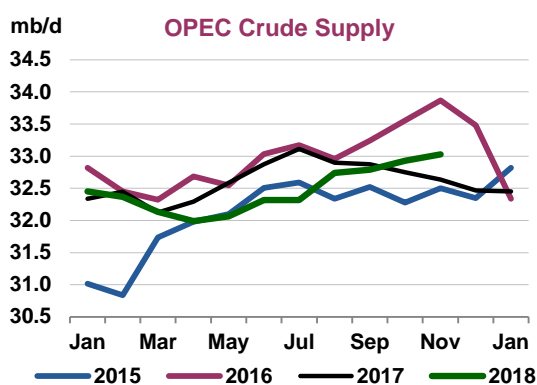
OPEC member countries and 10 non-OPEC producers last week agreed to cut supply by 1.2 mb/d from 1 January for six months, based on October 2018 levels. OPEC will shoulder 0.8 mb/d of the cuts (roughly 2.5% of its total output) and non-OPEC the remaining 400 kb/d (about 2% of its total). The formal communique that followed the ministerial meetings did not include individual country allocations, nor did it refer to any exemptions. However, it is known that Russia agreed to a cut of 230 kb/d, which will be phased in gradually. Iraq confirmed that its share of the cut is around 140 kb/d, while it is reported that Mexico will contribute a 40 kb/d reduction, Azerbaijan 20 kb/d and Malaysia 15 kb/d. Nigeria has rejoined the quota system, while Iran, Libya and Venezuela are exempt due to their exceptional conditions. Qatar is excluded as it is leaving OPEC.

Saudi Arabia said it will reduce its output by more than required under the deal. Production is expected to drop to 10.2 mb/d in January, down from an anticipated 10.7 mb/d in December and versus record rates above 11 mb/d in November, according to Saudi Energy Minister Khalid al-Falih. The UAE has signaled that it, too, will start to curb supply in December.

Russia clearly played a pivotal role in brokering the deal, including holding bilateral meetings with Iran and Saudi Arabia that kept the Vienna Agreement alive and well. The 24-member group has agreed to meet again in April, well ahead of the new deal's expiry and most likely in advance of any change in US policy towards Iranian export waivers.

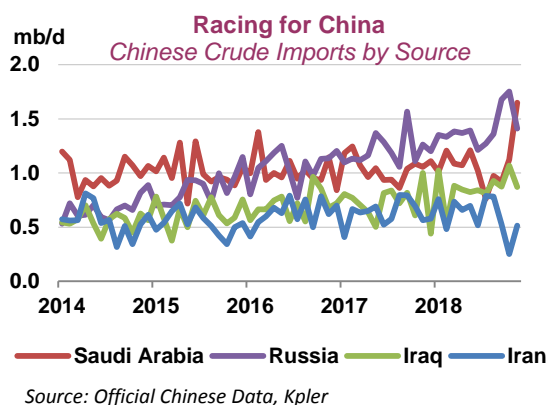
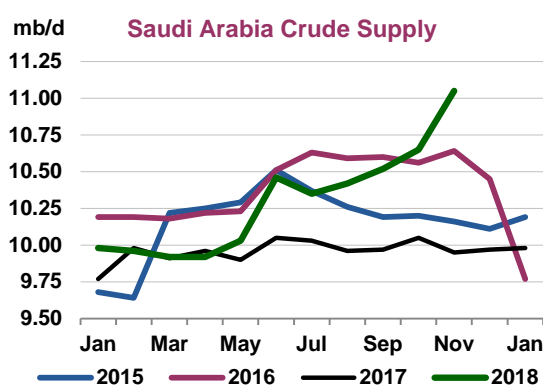
## OPEC crude oil supply

OPEC crude oil output climbed 100 kb/d m-o-m to 33.03 mb/d in November as Saudi Arabia and the UAE ramped up to historic highs, more than offsetting a sharp loss from Iran, just before the group struck a deal with non-OPEC to reduce supply (see *OPEC and non-OPEC allies agree new cut*). The official start date of the output pact is 1 January, but December may well see lower levels as Saudi Arabia has announced that it will curb flows by 400 kb/d. From the start of next year, OPEC's membership will drop to 14 following Qatar's sudden departure (see *Qatar quits OPEC*).



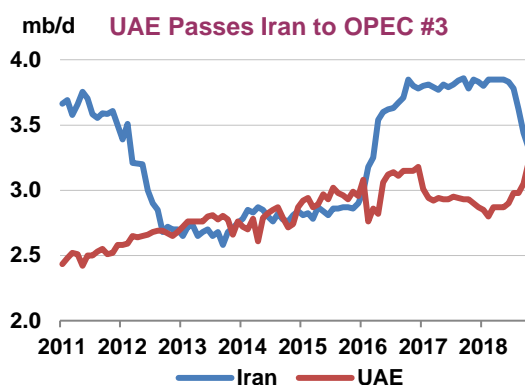
OPEC built its case for a production cut based on market balances showing that the group has been producing more than the market needs, which helped build up the world's oil inventories. Record production from Saudi Arabia and the UAE, and higher flows from Nigeria, Iraq, Kuwait and Libya pushed OPEC's November output up by a net 965 kb/d versus May, just before the Vienna Agreement countries agreed to ease cuts. Saudi Arabia's production increased by just over 1 mb/d in response to stronger demand. Iran, on the other hand, saw supply fall by 840 kb/d as customers were deterred by the imposition of unilateral US sanctions. OPEC's loftier supply in November, the highest since July 2017, cut spare production capacity to just 1.64 mb/d – less than 2% of global demand.

In the run-up to the supply cut deal, **Saudi Arabia** delivered the biggest increase, with output surging 410 kb/d month-on-month (m-o-m) to 11.06 mb/d in November, the highest level ever. Shipments of crude soared by 780 kb/d to 8.1 mb/d, according to *Kpler* data, in response to strong demand from buyers preparing for a disruption in supply from Iran. To help meet its higher overall requirements, roughly 200 kb/d was drawn down from stocks. A consequence of the higher production was a reduction in Saudi spare capacity to under 1 mb/d.

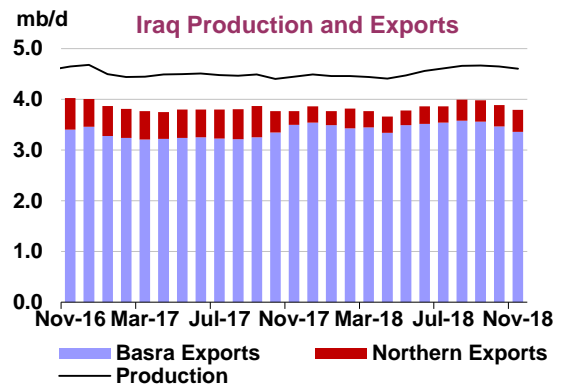


China lifted a whopping 1.6 mb/d of Saudi crude in November, up 440 kb/d m-o-m, and the Kingdom is seeking to sustain those record levels and reclaim its rank of top supplier. To that end, it has secured five new crude supply pacts for 2019 that will raise sales to China by up to 600 kb/d and hold exports at 1.67 mb/d. From January-November, China bought around 1.1 mb/d from Saudi Arabia compared to purchases of 1.4 mb/d from Russia. China lined up more oil from a number of sources ahead of the implementation of US sanctions on Iran.

Elsewhere in the Gulf, the **UAE** turned in another record-breaking performance in November, which saw it overtake Iran's falling output to become OPEC's third largest crude producer. Supply rose 110 kb/d m-o-m to 3.33 mb/d. Given its bold plan to build up capacity to 4 mb/d, and the possibility of Iran's production being restricted for some time, the UAE could find itself holding onto third place. **Kuwaiti** production edged up to 2.78 mb/d after exports recovered from weather-related delays during October. Its supply baseline for the new OPEC cuts will be based on September, which was not impacted by bad weather. Supply in **Qatar**, which joins the ranks of non-OPEC next year, held steady at 610 kb/d for November.



Production from **Iraq**, including the Kurdistan Regional Government (KRG), eased 50 kb/d m-o-m to 4.6 mb/d in November despite the restart of some federally controlled Kirkuk shipments as bad weather disrupted southern loadings. In mid-November, Iraq's North Oil Co (NOC) restarted exports of Kirkuk crude, halted for a year by a dispute between the KRG and central government, after Baghdad agreed an initial deal with the semi-autonomous northern region. As a result, exports of northern crude edged up to an average 430 kb/d in November.



As for the south, rough weather in the Gulf during November cut exports of Basra crude by around 110 kb/d to 3.36 mb/d. The lion's share of Iraq's crude is shipped via its southern ports. OPEC's second biggest producer is meanwhile targeting more oil sales to Asia for 2019.

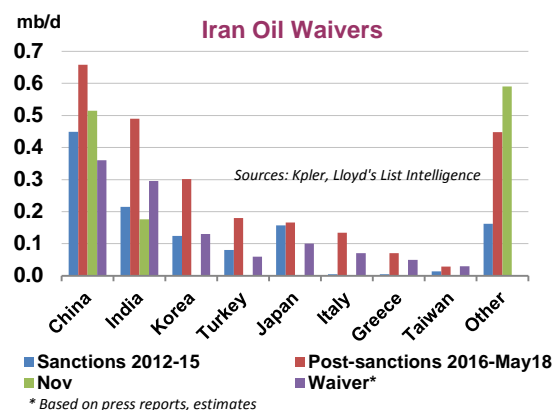
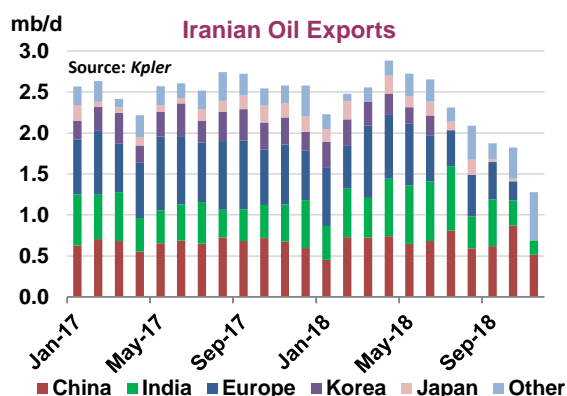
### **Qatar quits OPEC**

In a surprise move, Qatar, an OPEC member since 1961, will leave the group on 1 January to focus on natural gas. Although one of OPEC's smallest crude producers, in 2017 it was by a distance the world's largest LNG exporter with 26% of total global shipments. With current crude supply of 610 kb/d, Qatar accounts for just 1.8% of OPEC's production, so its decision to leave did not significantly influence last week's discussions in Vienna. In the 2016 Vienna Agreement led by Saudi Arabia and Russia, Qatar's production cut was just 30 kb/d.

Minister of Energy Saad al-Kaabi stressed the decision was not a consequence of the blockade of Qatar enforced since June 2017 by Saudi Arabia, the UAE, Bahrain and Egypt. "For us, it's better to focus on big growth potential -- which is why we decided to focus on just gas," he was quoted as saying. That motivation is bolstered by al-Kaabi's belief that LNG will play an increasingly important role as the world seeks to lower carbon emissions. Qatar Petroleum aims to raise liquefaction capacity from 77 million tonnes a year to 110 million tonnes a year by adding four more trains with the help of foreign companies.

Qatar is the first Middle East producer to leave the group. In the history of OPEC, three countries (Ecuador, Gabon and Indonesia) have withdrawn, but two (Ecuador and Gabon) subsequently re-joined.

**Iranian** crude production tumbled 310 kb/d m-o-m to 3.01 mb/d as customers backed off due to US sanctions. Output in November was the lowest since January 2016, when international sanctions on Iran were eased, and was down 840 kb/d on a year ago. Shipments of Iranian oil plunged 550 kb/d m-o-m to 1.28 mb/d, down 1.4 mb/d since May. The waivers granted by the US to eight buyers could see exports recover slightly in December. The drop in production was much less dramatic, as some oil is still moving into storage. At the end of November, the National Iranian Oil Co (NIOC) had stored roughly 14 mb of oil on seven tankers moored off Kharg Island.

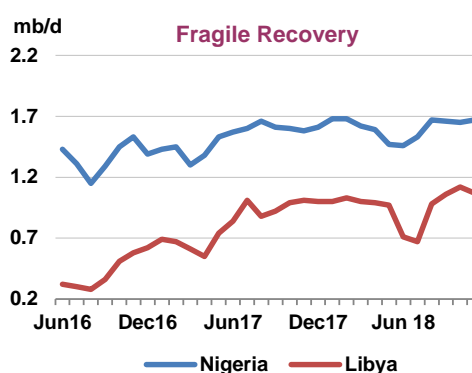




During November, Iran's exports to Europe, including Turkey, dropped to zero, as did shipments to Japan, Korea and Taiwan. Liftings from China plunged from 870 kb/d to 515 kb/d, which is above its 360 kb/d waiver level. Some Iranian volumes are assumed to be moving into bonded storage in China. NIOC is believed to have leased nearly 3 million tonnes of storage at Dalian, which would allow it to store close to 22 mb. India loaded only 180 kb/d in November, 120 kb/d below its waiver amount.

As for the upstream, China National Petroleum Corp has suspended investment in Phase 11 of the South Pars gas field, where it was expected to replace Total as the foreign partner. Production capacity is 2 billion cubic feet per day of gas, with the \$4.8 billion project due to start up in 2021. Once operational, it is expected to deliver 70 kb/d of condensate. Total withdrew from the project earlier this year to avoid breaking US sanctions.

Apart from Libya, still in the midst of civil unrest, all of OPEC's African members will take part in supply cuts. However, the ink had barely dried on the supply cut deal when **Libyan** output suffered a major setback. Nearly 400 kb/d of output was shut in after armed militia took over the El Sharara oil field. As a result, the National Oil Corp on 10 December declared *force majeure* on shipments from its largest oil field. The shutdown will cut output by 315 kb/d along with an additional loss of 73 kb/d at the neighbouring El Feel field. Production at the west coast Zawiya refinery is also at risk because of its reliance on supply from Sharara. Libyan production already had dropped 50 kb/d m-o-m to 1.07 mb/d in November, after rough weather forced the closure of loading terminals.



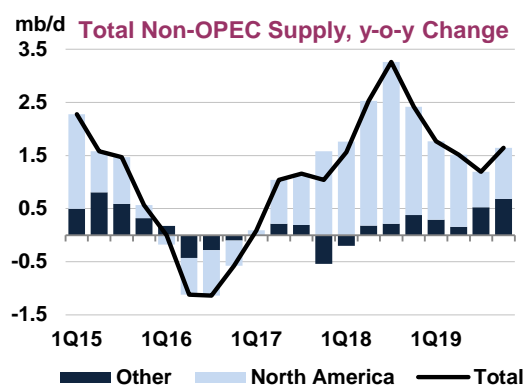
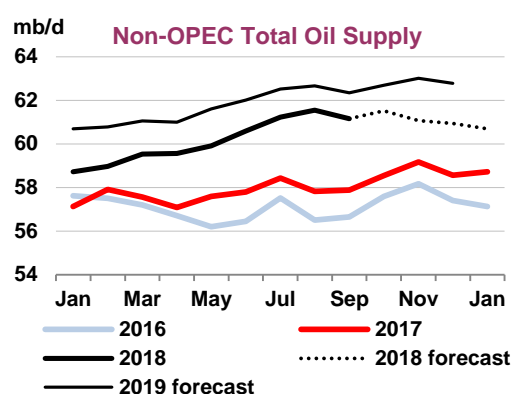
In **Nigeria**, output edged up to 1.67 mb/d in November, 90 kb/d above a year ago. As with Libya, production is vulnerable to disruption due to simmering domestic unrest. Further growth depends on Total's \$16 billion Egina project to lift oil supply when the 200 kb/d deep water project comes online later this month.

Output in **Angola** dipped to 1.45 mb/d in November and was down 160 kb/d on a year ago, as declines at mature fields continue. Output from other African producers held broadly steady m-o-m. Output was unchanged in **Algeria** at 1.07 mb/d and at 330 kb/d in **Congo**. Supply in **Equatorial Guinea** crept up to 120 kb/d, while output in **Gabon** dipped to 160 kb/d.

Output in Venezuela inched down to 1.25 mb/d in November, 530 kb/d below a year ago. As output sinks and the economy spirals deeper into crisis, President Nicolas Maduro paid a visit to his counterpart, Vladimir Putin, in Moscow. The outcome of the talks, according to Maduro, was that Russia would invest \$5 billion to raise Venezuela's output by 1 mb/d under a new economic pact. Russia has become a crucial lender to Venezuela, but it has been a challenge for Caracas to supply sufficient volumes of oil as repayment. Production from Ecuador was unchanged at 520 kb/d.

## Non-OPEC overview

The forecast for non-OPEC supply growth for 2019 has been lowered by 415 kb/d since last month's *Report*, following a pledge by 10 non-OPEC producers to reduce output by 400 kb/d from October levels and as Alberta imposed mandatory output reductions. Russia agreed to cut supplies by 230 kb/d from October's record high of 11.4 mb/d in coming months, putting at risk the expected ramp up of new projects. The remaining 170 kb/d of non-OPEC cuts is to be proportionally divided between the remaining parties to the Vienna Agreement, which are Mexico, Oman, Kazakhstan, Azerbaijan, Malaysia, Bahrain, Brunei, Sudan and South Sudan. Non-OPEC supplies are now expected to expand by 1.5 mb/d next year, following gains of 2.4 mb/d on average in 2018.



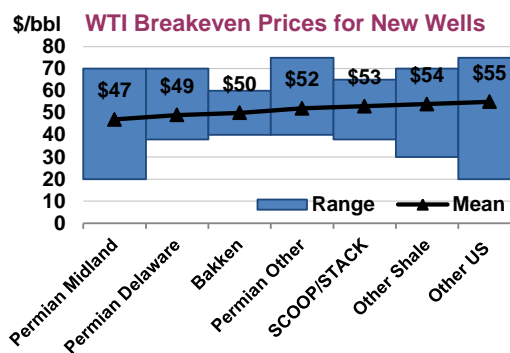
The biggest cut to supplies in the near term is set to come from Canada. Albertan crude and oil sands output will be reduced by 325 kb/d from January until brimming inventories are back to normal levels and takeaway capacity is better aligned with the region's output (see *Alberta orders mandatory output cuts to shore up domestic crude prices*).

### Non-OPEC Supply

(million barrels per day)

	2017	1Q18	2Q18	3Q18	4Q18	2018	1Q19	2Q19	3Q19	4Q19	2019
Americas	20.3	21.7	22.2	23.3	23.3	22.6	23.2	23.5	24.0	24.2	23.7
Europe	3.5	3.6	3.4	3.3	3.3	3.4	3.4	3.3	3.3	3.4	3.4
Asia Oceania	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.5	0.5	0.5	0.5
<b>Total OECD</b>	<b>24.2</b>	<b>25.7</b>	<b>25.9</b>	<b>27.0</b>	<b>27.1</b>	<b>26.4</b>	<b>27.1</b>	<b>27.3</b>	<b>27.7</b>	<b>28.2</b>	<b>27.6</b>
Former USSR	14.3	14.4	14.5	14.6	14.8	14.6	14.7	14.5	14.7	14.9	14.7
Europe	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
China	3.9	3.8	3.9	3.8	3.9	3.8	3.8	3.8	3.7	3.7	3.8
Other Asia	3.5	3.4	3.3	3.3	3.3	3.3	3.3	3.2	3.2	3.2	3.2
Latin America	4.5	4.5	4.5	4.4	4.6	4.5	4.7	4.8	4.9	5.1	4.9
Middle East	1.2	1.2	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3
Africa	1.4	1.4	1.5	1.5	1.4	1.5	1.5	1.4	1.4	1.4	1.4
<b>Total Non-OECD</b>	<b>29.0</b>	<b>29.0</b>	<b>29.1</b>	<b>29.0</b>	<b>29.3</b>	<b>29.1</b>	<b>29.2</b>	<b>29.1</b>	<b>29.4</b>	<b>29.7</b>	<b>29.4</b>
Processing Gains	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3
Global Biofuels	2.5	2.1	2.7	3.0	2.5	2.6	2.2	2.8	3.0	2.7	2.7
<b>Total Non-OPEC</b>	<b>58.0</b>	<b>59.1</b>	<b>60.0</b>	<b>61.3</b>	<b>61.2</b>	<b>60.4</b>	<b>60.8</b>	<b>61.5</b>	<b>62.5</b>	<b>62.8</b>	<b>61.9</b>
Annual Chg (mb/d)	0.8	1.6	2.5	3.3	2.4	2.4	1.8	1.5	1.2	1.6	1.5
Changes from last OMR (mb/d)	0.00	0.00	0.01	0.14	0.18	0.08	-0.56	-0.52	-0.21	-0.04	-0.33

The output cuts came as welcome news for US shale producers, after domestic crude prices in November plunged near or below levels deemed necessary to profitably drill new wells. A March 2018 survey by the Dallas Federal Reserve put the average WTI breakeven price for new wells in a \$47-55/bbl range, even as some companies said they can bring on new wells for as little as \$20/bbl. More recently, international oil field services companies have warned of a slowdown in fracking activity. In early December, Schlumberger said hydraulic fracking activity fell more sharply than expected in the fourth quarter and that the recent price volatility has brought more uncertainty to the outlook for E&P spending in 2019. Investors have been pushing companies to generate higher profits instead of increasing production and a further drop in oil prices could have slashed cash flow needed to cover production costs and deliver shareholder dividends. In 2018, the sector generated free cash flow for the first time ever.



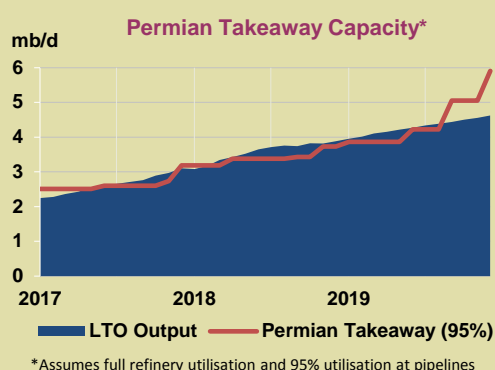
Source: Federal Reserve Bank of Dallas.

In the near term, however, it is infrastructure constraints that will limit supply growth compared with recent record rates (see *Permian, Bakken takeaway to remain tight next year*). Growth of 2.1 mb/d for US total oil supply in 2018 is expected to slow to 1.3 mb/d in 2019. Crude oil production is seen rising by 1.6 mb/d and 1 mb/d in 2018 and 2019, respectively.

### **Permian, Bakken takeaway to remain tight next year**

The earlier-than-expected commissioning of Plains All American's Sunrise pipeline in November has boosted nameplate takeaway capacity out of the Permian Basin to a new record of 3.4 mb/d, up 570 kb/d from the end of 2017. Pipeline operators have been running at full capacity and without major disruptions this year, allowing rapidly growing production to move around the system. However, planned capacity expansions in 1Q19 (+140 kb/d) and 2Q19 (+375 kb/d) will not entirely keep pace with the rapid growth in light tight oil (LTO) production, ensuring takeaway capacity remains tight until the second half of 2019.

The spot price of crude produced in the Permian fell sharply in relation to other North American and global grades from March, reaching a trough at the end of August when investors realised LTO output was going to



increase quicker than expected. On 30 August, WTI Midland traded as much as \$17.75/bbl below WTI Cushing and \$23.50/bbl below WTI Houston. Since then, the Permian discount has more than halved and is \$8/bbl below Cushing.

Technology and human ingenuity have squeezed additional space on transmission lines. Pipeline operators have used drag reducing agents to augment the flow of oil and in some cases have been able to run at full or even above capacity, whereas pipelines do not typically run at more than 90-95% utilisation. Plains commissioned Sunrise ahead of schedule thanks to temporary generators and the rewiring of existing pipelines. In addition, Enterprise Products Partners is

mulling the temporary conversion of an existing NGL line to crude in 2Q19 to alleviate shortages. There has also been an element of luck with no major outages recorded in 2018, despite the very high throughput rates. This is not guaranteed to last.

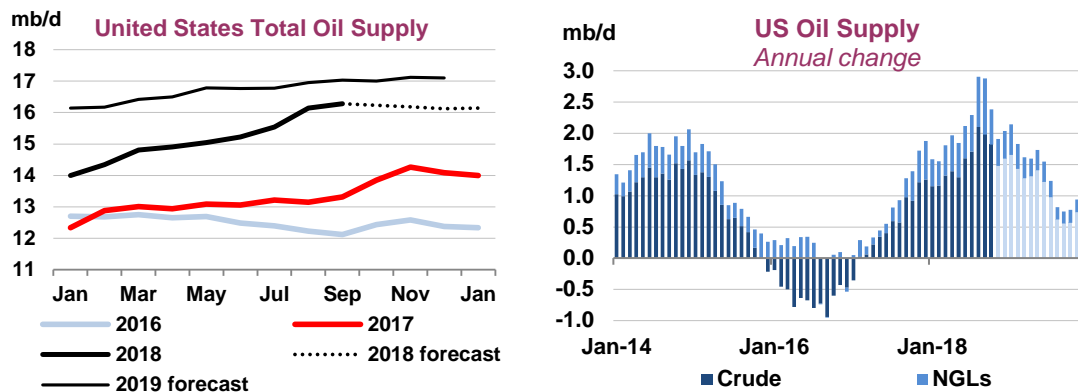
In the first half of 2019, the expansion of Bridgetex (+40 kb/d) and Sunrise (+175 kb/d), the opening of Cactus 2 (+100 kb/d) and, if it is confirmed, the conversion of Enterprise's NGL line to crude (+200 kb/d) will boost capacity by a further 515 kb/d. Takeaway capacity growth will therefore closely track output growth in the Permian, but it will still lag behind until the second half of 2019, when the 675 kb/d EPIC project comes online. Operators can ill afford major pipeline or refinery shutdowns during that time, as this would only exacerbate the shortage. In 2H19, a whopping 1.8 mb/d of additional capacity is then scheduled, putting an end to pipeline shortages in the Permian.

### **Bakken fortunes tied to rail**

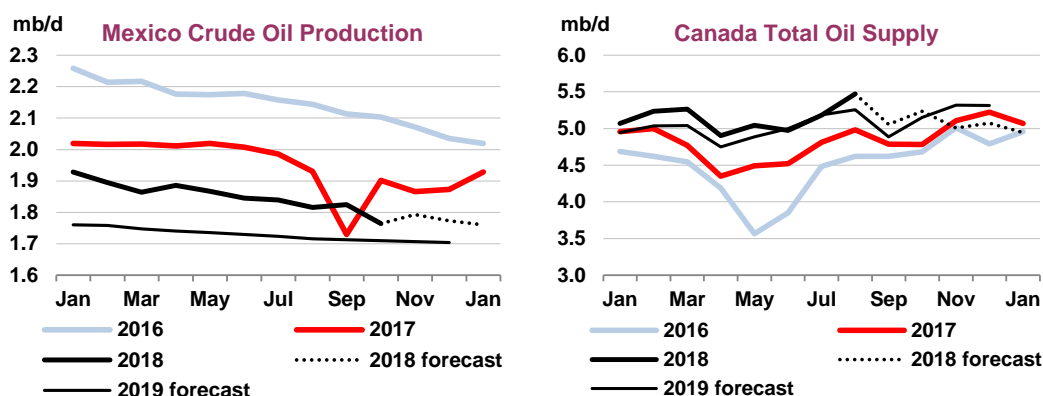
In the Bakken shale formation, situated in North Dakota, takeaway pipeline capacity is lacking for the first time since 2013, despite last year's commissioning of Energy Transfer Partners' 525 kb/d Dakota Access line. Bakken crude for delivery in Clearbrook traded at an almost \$18/bbl discount to WTI Cushing in early November, as several refineries in the Midwest underwent maintenance and Enbridge's Mainline was fully utilised due to record high Canadian output. For now, the shortage of pipeline capacity looks to have been mainly temporary (the Clearbrook discount returned to \$6/bbl in early December), but it shows that further increases in Bakken output will have trouble being exported via pipeline out of the region.

We expect Bakken takeaway capacity to increase by a mere 45 kb/d to 1.3 mb/d next year with the expansion of Dakota Access. No substantial pipeline buildout is planned in the region until at least 2020, while Canadian pipelines are likely to remain fully utilised until Keystone XL or Trans Mountain are commissioned, which is now unlikely before 2021. As a result, Bakken operators wishing to expand production are likely to use rail increasingly. There is an estimated 1.5 mb/d of rail capacity in North Dakota, of which 80% is unused.

In September, the latest month for which consolidated output data is available, **US** oil supply continued to climb, despite losses in the Gulf of Mexico. Crude oil production rose 130 kb/d from August, to 11.48 mb/d, with gains of 105 kb/d in Texas and North Dakota up 64 kb/d from a month earlier. Alaskan production rose seasonally, by 43 kb/d, while offshore output, affected by outages due to Tropical Storm Gordon, fell by 145 kb/d. Offshore production was likely depressed also in October as Hurricane Michael forced precautionary shutdowns of as much as 40% of regional production at one point. Offshore production should get a boost by end-year however after BP started up its Thunder Horse expansion in October, four months ahead of schedule, and as Chevron fired up its Big Foot project at the end of November. Crude oil output in September was 1.98 mb/d higher than a year ago while NGL supply, at 4.63 mb/d, stood 900 kb/d higher, its highest y-o-y gain on record.



In **Mexico**, oil production fell another 75 kb/d m-o-m in October due to lower output from the Ku-Maloob-Zaap complex and the Tabasco offshore region. At just shy of 2 mb/d, output was 175 kb/d, or 8.1%, lower than a year ago. It is understood that Mexico agreed to cut output by 40 kb/d in January from the October 2018 baseline, as its contribution to last week's Vienna Agreement. Nevertheless, the newly elected President Andrés Manuel López Obrador has said his new administration will allocate \$3.9 billion in his budget to reverse output declines by the end of 2019. At the same time, drilling activity is picking up. The number of active oil rigs increased to 31 in November from a low of only nine one year ago. In September, Pemex said it would miss its crude output target of 1.95 mb/d for this year and it expects further declines in 2019.



**Canadian** oil production rose by an estimated 180 kb/d in October, to 5.2 mb/d, as synthetic crude oil output from Alberta's upgraders rose by 220 kb/d m-o-m and offshore oil output increased after maintenance was completed. Oil production likely declined in November, however, in response to brimming oil inventories and record crude discounts caused by a lack of takeaway capacity (see *Alberta orders mandatory output cuts to shore up domestic crude prices*). Offshore operations also suffered, as severe weather forced companies to shut down production from mid-month at the Hebron, Terra Nova,

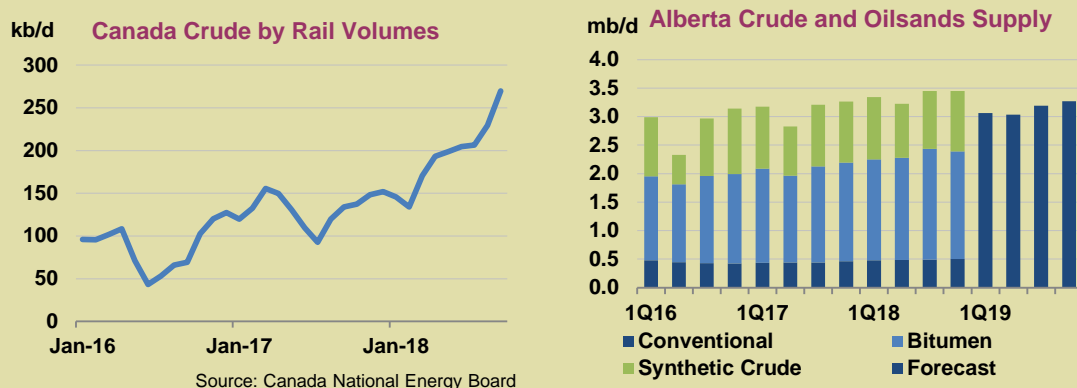
Hibernia and White Rose fields. By early December, only White Rose remained shut, following a significant oil spill. Higher than expected output in August through October provided an offset to the outages, so that the 2018 forecast is largely unchanged at 5.1 mb/d. The 2019 forecast has been reduced by 60 kb/d, however, with output now seen declining by 60 kb/d.

### **Alberta orders mandatory output cuts to shore up domestic crude prices**

Faced by record discounts for its crude and brimming oil inventories, Alberta announced on 2 December it would mandate temporary production cuts starting in January. The largest operators have been asked to curb output by 8.7%, or 325 kb/d, for an initial three months to draw down the excess crude in storage, and 95 kb/d thereafter until the end of 2019.

The output cuts will be calculated against a baseline determined by each company's highest six months of production over the past year. The first 10 kb/d of production from each operator will be excluded, as will condensate production needed to dilute bitumen supplies for transport. The cuts will apply to 25 of the province's 421 operators. Operators are free to choose the projects from which they will restrict output, but they will not be allowed to carry forward output cuts larger than the allocations to subsequent months.

Following an increase of 345 kb/d in 2017, during the first ten months of 2018 Canadian oil production has increased by as much as 400 kb/d y-o-y. While offshore output was boosted by the start-up of the Hebron field at the end of 2017, and NGLs production has risen sharply, Albertan crude, condensate and bitumen production account for the bulk of the increase. With production far outpacing local demand and pipeline capacity out of the region, crude shipments by rail have risen sharply in recent months. By September, they had reached 270 kb/d, nearly double the year earlier level.



However, rail capacity has also proved insufficient. Alberta estimates that current production outstrips pipeline and rail capacity by 190 kb/d, leaving producers with no alternative other than putting crude into storage or shutting in production. A number of companies, including Cenovus, Canada Natural Resources Limited (CNRL), MEG, Athabasca Oil Corp and Obsidian Energy announced they were already curtailing output during 4Q18. Even so, there are currently some 35 mb of oil in storage in Alberta, which is twice the normal level. The primary stated goal of the output cuts is to get the inventory levels back to normal levels, which should also shore up local crude price differentials.

The discount on Western Canada Select (WCS) heavy blend hit a record at \$50.75 below the West Texas Intermediate (WTI) benchmark last month, which meant producers without offtake agreements in place were receiving about \$14/bbl for their crude, while WTI was worth \$67/bbl. The gap has since narrowed slightly as the WTI benchmark price has fallen and crude by rail volumes have increased.

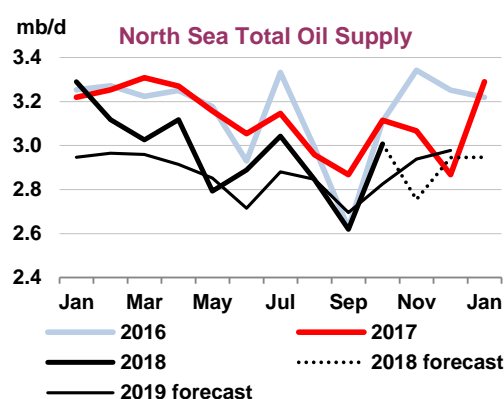
While the output cuts are expected to be temporary, measures are also being taken to relieve the bottlenecks more permanently. Alberta's Premier Rachel Notley said last week the government was moving ahead with plans to buy 80 locomotives and 7 000 rail cars to boost crude by rail capacity by 120 kb/d by mid-2020. The premier noted that pipelines were preferred to all other options, but blamed the federal government for delays getting projects built. Enbridge's Line 3 pipeline replacement (+375 kb/d), is expected online by late 2019. The Trans Mountain and Keystone XL pipeline projects face regulatory delays.



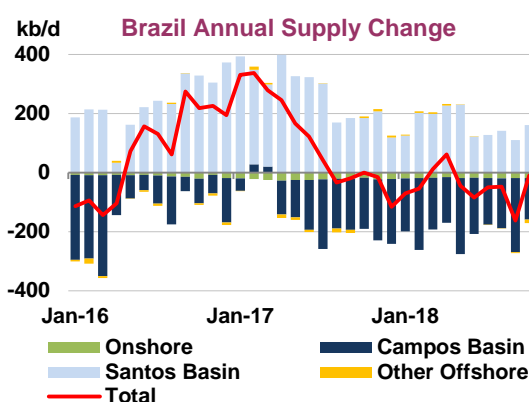
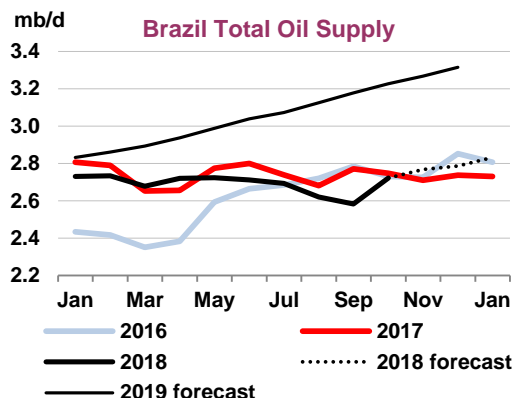
**North Sea** oil output rebounded sharply in October, after heavy maintenance had curbed supply in September.

**Norwegian** oil production rose by a stronger than expected 270 kb/d month-on-month, although at 1.87 mb/d, output was nevertheless 60 kb/d below a year ago. Loadings data suggest that output dropped back again in November, in part due to brief shutdowns of a number of fields supplying the Sture terminal due to a tanker collision but also to lower supplies from a number of other installations. **UK** oil supplies also recovered, rising 120 kb/d m-o-m to 1.03 mb/d in October, according to preliminary data. A shutdown of the largest field, Buzzard, in November due to the discovery

of corrosion on pipework likely reversed the gains, however. After falling by 145 kb/d during 2018, North Sea oil production is forecast to decline by a further 30 kb/d during 2019, to 2.9 mb/d, with declines mostly coming from Norway while UK output holds steady.



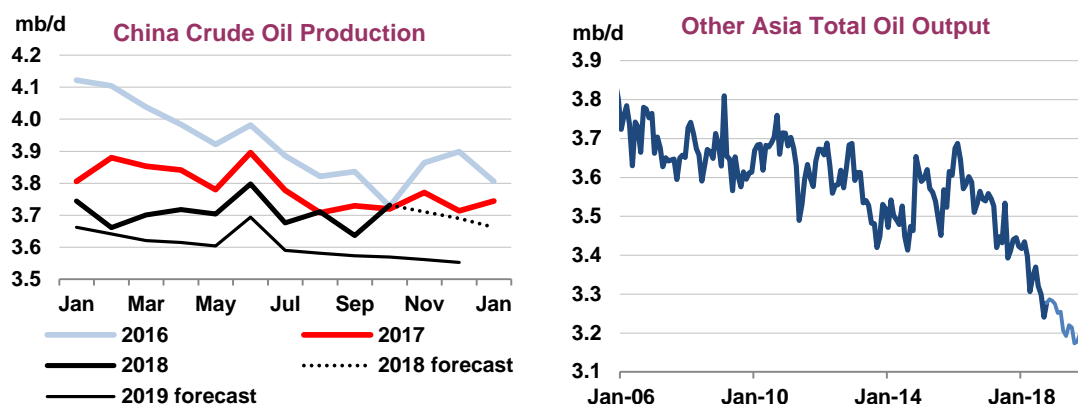
After a difficult year, with field declines offsetting output gains from new production systems, **Brazilian** oil supplies are finally rising. In October, total oil supply increased by 140 kb/d, its highest monthly increase this year. Gains stemmed primarily from the Lula field, which rose by 48 kb/d m-o-m to a new all-time high of 900 kb/d after a new floating, production, offloading and storage (FPSO) started up in October. Increases also came from the Búzios field that started up in April. In November, a second FPSO was added to the field. Y-o-y declines from the Campos Basin also eased from 250 kb/d in September to 140 kb/d in October, as output recovered at the Jubarte and Roncador fields. In a recent update to its five-year business plan, Petrobras said it will spend \$68.8 billion over the next five years on its upstream segment, of which 56% will be dedicated to pre-salt developments



Elsewhere in the region, **Argentinian** output held steady at around 590 kb/d in October, up 10 kb/d on a year ago due to increased tight oil output. In **Colombia**, oil production inched up 10 kb/d m-o-m to 890 kb/d, its highest level since June 2016. Companies have raised spending and drilling activity, reversing sharp reductions in 2015 and 2016. By October, 29 rigs were active, compared to 22 a year earlier and only two at the low point during 2016.

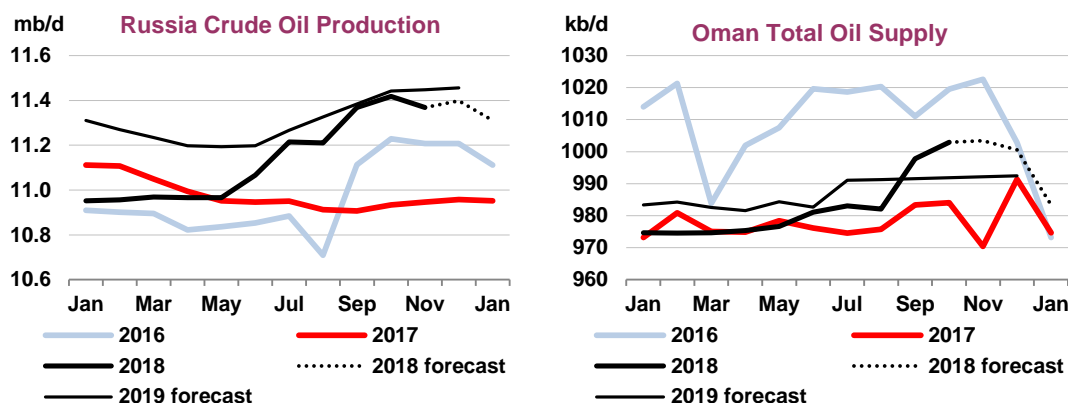
**Chinese** crude oil production rose by nearly 100 kb/d in October, to 3.73 mb/d and slightly above the year-ago level. While output so far this year has declined by roughly 90 kb/d, or 2.4% on average, the pace has slowed markedly in recent months as oil prices rose through October and in response to President Xi's call to boost domestic supplies. In September, CNOOC started up its 59 kb/d Penglai 19-3 oilfield, while CNPC has said it will keep drilling through the winter at oil fields in the west of the country to boost output. The company's engineering unit, China Petroleum Engineering Corp, said earlier this year that it will carry out an additional 2 million metres of drilling from November to February. With

Brent prices falling to \$60/bbl during November, lower than the break-even cost for a number of Chinese fields, it remains to be seen if production can be sustained, let alone increased from current levels. For now, we expect a modest decline in crude oil output of 100 kb/d next year, offset in part by higher output of coal to liquids.



Elsewhere in Asia, production continues to slide. In October, **Indian** oil output stood 28 kb/d below a year earlier at 830 kb/d. **Indonesian** supplies declined by 35 kb/d, or 4.2%, y-o-y on average through August, the latest month for which data is available. **Malaysian** crude oil production rose by 33 kb/d m-o-m in October, but at 630 kb/d was still 12 kb/d below a year earlier. So far this year, Malaysian oil production is largely unchanged from a year ago on average, but output might decline in 2019 following acceptance of a production cut of 15 kb/d as part of the Vienna Agreement. **Vietnam's** total oil output is down more than 10%, or 30 kb/d, on average this year, to 237 kb/d in October. Supplies from **Thailand** are also on a downward trend, with crude and condensate output falling nearly 6% on average to around 220 kb/d in September.

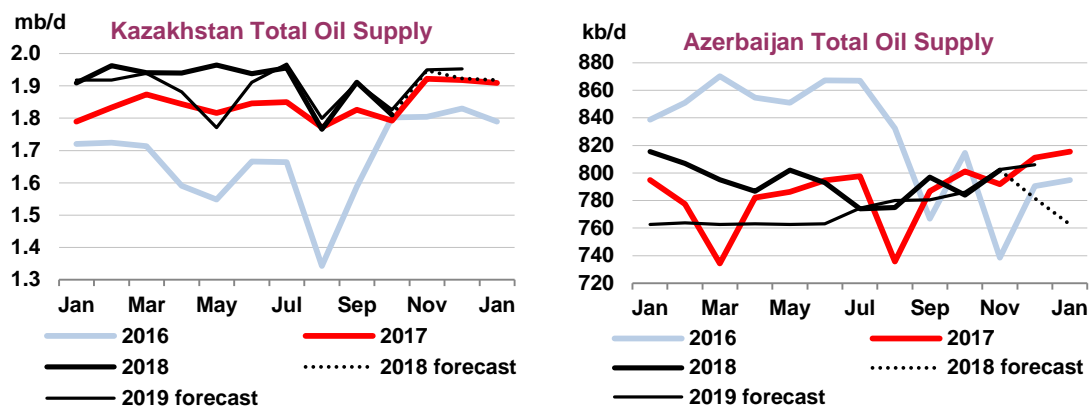
**Russia** agreed to cut its oil production by 2%, or 230 kb/d, from its October 2018 level of 11.4 mb/d starting in January, as part of the Vienna Agreement. Energy Minister Alexander Novak said the cuts will be gradual over the next few months, and that companies would cut production proportionally. In November, crude and condensate output eased marginally after a new all-time high was hit a month earlier. At 11.37 mb/d, production was nevertheless 420 kb/d higher than a year ago. Russian output was expected to see continued gains during 2019, with a number of new fields set to ramp up.



**Omani** crude and condensate output rose to 995 kb/d in October, from 990 kb/d a month earlier and 20 kb/d higher than a year ago. Output was at its highest since output cuts were put in place at the start of 2017, when Oman agreed to cut supplies by 45 kb/d. Assuming a 2% cut from the October baseline, Omani output could be curtailed by 20 kb/d from January.

**Kazakhstan's** oil output fell by 100 kb/d in October, to 1.8 mb/d, a slightly steeper drop than expected. The decline stemmed almost entirely from lower output at the Tengiz field, which fell by 125 kb/d m-o-m, to 506 kb/d. Tengiz production had been curtailed by planned maintenance in August. Output at Kashagan rose by 19 kb/d to a record 309 kb/d, up 130 kb/d on a year ago. CPC loadings for November suggest output recovered, with Tengiz liftings up 100 kb/d, offset by a decline in supplies from Kashagan, which nevertheless stood above 300 kb/d.

It is currently unclear how Kazakhstan will contribute to the Vienna Agreement. Last week, the energy ministry said it will produce 89 million tonnes (1.89 mb/d using a conversion factor of 7.6 barrels/ton) of oil next year, up from 87 million tonnes predicted for this year. The ministry also said that Kazakhstan is ready to cut output as agreed. During the last round of cuts, when a production cut of 20 kb/d was agreed, output actually increased as the Kashagan field ramped up towards capacity. In 2019, compliance will be helped by a planned 45-day maintenance programme at Kashagan from 14 April and by two separate programmes scheduled at Tengiz for 45 days in August and for 10 days in October. For now, we have tentatively lowered Kazakh output for the first half of 2019 and will adjust the forecast once more information becomes available.



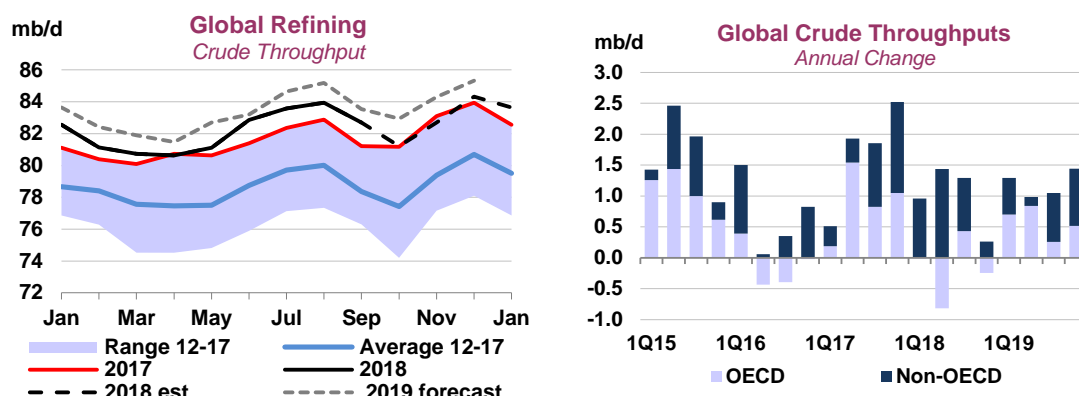
**Azerbaijan's** oil output rose to 801 kb/d in November from 783 kb/d the previous month, and 10 kb/d up on a year ago. Azerbaijan committed to reducing output by 20 kb/d from the October baseline by January, so as not to exceed a production level of 763 kb/d under the Vienna Agreement. Output curbs will have to offset expected gains from the recently sanctioned second phase of the Shah Deniz gas project that will increase condensate output from around 55 kb/d to 120 kb/d by end-year.

# REFINING

## Summary

Growth in global refining throughput is expected to have come to a sudden halt in 4Q18, as Latin America's 530 kb/d year-on-year (y-o-y) decline, combined with the expectation of lower activity in Europe are only just offset by growth in China, the Middle East and the US. While record US run rates this year are widely discussed, most other regions in the Atlantic Basin have seen reduced throughput. Indeed, the only instance of annual growth in the Atlantic Basin this year, in 3Q18, was largely due to the y-o-y rebound effect in the US from the Hurricane Harvey. For 2018 as a whole, the net effect of continued strong US throughput growth and declines in Mexico, Latin America and Europe, is a 0.3 mb/d annual decline in the Atlantic Basin, compared to 0.5 mb/d growth in 2017. Global throughput, however, is up 0.7 mb/d y-o-y, thanks to the sustained growth East of Suez, namely in China (up by 0.6 mb/d) and the Middle East (0.3 mb/d).

In 2019, the Atlantic Basin is expected to return to modest growth, with Mexico, Canada and Europe recovering. China and the Middle East will continue to drive most of the volumetric growth. The US is already close to a ceiling as its high utilisation rates show.



Historical estimates for several countries have been revised in this report, notably Iran and Algeria, to include condensate splitter intake. This has increased the baseline estimate, by about 0.2 mb/d in 2018.

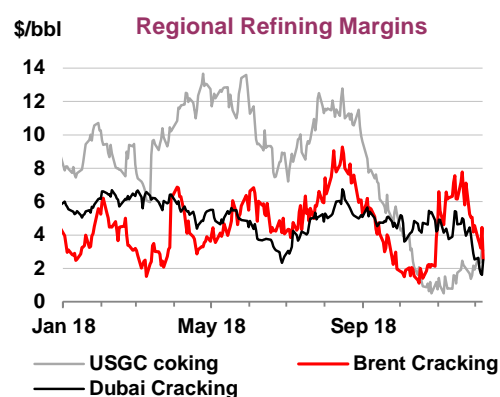
**Global Refinery Crude Throughput<sup>1</sup>**  
(million barrels per day)

	Sep 18	3Q18	Oct 18	Nov 18	Dec 18	4Q18	2018	Jan 19	Feb 19	Mar 19	2019
Americas	19.5	19.9	18.6	19.6	20.1	19.5	19.4	19.4	18.7	19.6	19.8
Europe	12.1	12.5	11.9	12.1	12.5	12.2	12.1	12.5	12.2	11.7	12.3
Asia Oceania	7.0	7.0	6.6	7.0	7.4	7.0	7.0	7.3	7.3	7.0	7.0
<b>Total OECD</b>	<b>38.6</b>	<b>39.4</b>	<b>37.1</b>	<b>38.7</b>	<b>40.0</b>	<b>38.6</b>	<b>38.5</b>	<b>39.3</b>	<b>38.2</b>	<b>38.3</b>	<b>39.0</b>
FSU	7.1	7.1	6.8	7.2	6.9	7.0	7.0	7.0	6.9	6.9	6.9
Non-OECD Europe	0.7	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6
China	12.4	12.0	12.3	12.2	12.3	12.3	12.0	12.4	12.4	12.4	12.5
Other Asia	10.4	10.5	10.7	10.6	10.7	10.7	10.6	10.9	10.6	10.2	10.8
Latin America	3.4	3.5	3.3	3.2	3.2	3.3	3.5	3.3	3.3	3.2	3.2
Middle East	8.0	8.2	8.2	8.1	8.2	8.2	8.0	8.0	8.1	8.0	8.3
Africa	2.0	2.0	2.1	1.9	2.2	2.1	2.0	2.1	2.1	2.1	2.1
<b>Total Non-OECD</b>	<b>44.0</b>	<b>43.9</b>	<b>44.0</b>	<b>43.9</b>	<b>44.2</b>	<b>44.0</b>	<b>43.7</b>	<b>44.3</b>	<b>44.1</b>	<b>43.5</b>	<b>44.3</b>
<b>Total</b>	<b>82.6</b>	<b>83.3</b>	<b>81.1</b>	<b>82.6</b>	<b>84.2</b>	<b>82.7</b>	<b>82.2</b>	<b>83.5</b>	<b>82.3</b>	<b>81.8</b>	<b>83.3</b>
<b>Year-on-year change</b>	<b>1.5</b>	<b>1.3</b>	<b>0.1</b>	<b>-0.4</b>	<b>0.4</b>	<b>0.0</b>	<b>0.7</b>	<b>1.1</b>	<b>1.3</b>	<b>1.2</b>	<b>1.1</b>

<sup>1</sup> Preliminary and estimated runs based on capacity, known outages, economic runcuts and global demand forecast

## Margins

In November, further crude price falls led margins to recover most of their losses seen since August, but developments were mixed in the US Gulf Coast and Midwest. The share of gasoline in US refinery output is usually at around 45%, augmenting the effect of lower gasoline cracks on refinery margins. USGC benchmark gasoline cracks recovered from negative levels in the second half of November, propping up regional margins, but the latter were still below European and Singapore levels, in a rare reversal of the normal ranking order. Middle distillates cracks in all three regions were much higher month-on-month, which was beneficial for diesel-oriented refineries in Europe. In this *Report*, we have changed the USGC gasoline quote used in margins calculations from waterborne to pipeline and from 85 RVP to 87 RVP, which has resulted in the revision of USGC historical margins.



### IEA/KBC Global Indicator Refining Margins<sup>1</sup>

	Monthly Average (\$/bbl)				Change	Average for week ending:					
	Aug 18	Sep 18	Oct 18	Nov 18	Nov 18-Oct 18	09 Nov	16 Nov	23 Nov	30 Nov	07 Dec	
<b>NW Europe</b>											
Brent (Cracking)	7.51	4.04	2.02	6.06	↑ 4.04	5.85	6.67	6.90	4.82	3.50	
Urals (Cracking)	7.77	4.48	4.39	6.71	↑ 2.32	6.84	7.13	7.33	5.45	4.71	
Brent (Hydroskimming)	2.78	-0.63	-0.93	3.96	↑ 4.89	3.65	4.45	4.90	3.00	1.81	
Urals (Hydroskimming)	2.58	-0.71	0.89	3.80	↑ 2.91	3.84	4.08	4.50	2.81	2.21	
<b>Mediterranean</b>											
Es Sider (Cracking)	9.89	6.10	5.13	9.43	↑ 4.30	9.71	10.40	9.83	7.83	6.79	
Urals (Cracking)	8.67	4.74	5.18	8.88	↑ 3.70	9.46	9.93	8.97	7.02	6.03	
Es Sider (Hydroskimming)	5.70	1.68	1.47	6.40	↑ 4.94	6.51	7.20	6.88	5.14	4.24	
Urals (Hydroskimming)	3.31	-0.94	0.19	4.27	↑ 4.08	4.68	5.13	4.47	2.70	1.79	
<b>US Gulf Coast</b>											
50/50 HLS/LLS (Cracking)	11.64	7.23	5.62	5.24	↓ -0.37	5.34	5.18	5.42	5.10	4.57	
Mars (Cracking)	6.42	2.35	1.49	2.43	↑ 0.93	2.19	2.53	2.49	2.66	2.19	
ASCI (Cracking)	6.10	2.02	1.29	2.34	↑ 1.06	2.11	2.59	2.28	2.55	2.10	
50/50 HLS/LLS (Coking)	13.28	9.06	7.04	5.93	↓ -1.11	6.14	5.87	6.12	5.61	5.26	
50/50 Maya/Mars (Coking)	11.25	6.44	2.17	1.46	↓ -0.71	0.96	1.35	2.20	1.75	2.73	
ASCI (Coking)	11.19	7.01	5.34	5.34	↓ 0.00	5.21	5.64	5.56	5.10	4.64	
<b>US Midwest</b>											
WTI (Cracking)	16.73	16.59	13.09	12.32	↓ -0.78	12.89	12.73	13.02	9.92	9.27	
30/70 WCS/Bakken (Cracking)	22.11	23.40	27.60	30.00	↑ 2.40	31.61	31.77	29.77	25.15	16.44	
Bakken (Cracking)	20.27	20.60	21.81	26.92	↑ 5.11	27.48	27.78	28.13	23.14	15.71	
WTI (Coking)	18.62	18.77	14.70	13.22	↓ -1.48	13.90	13.67	14.02	10.48	9.91	
30/70 WCS/Bakken (Coking)	25.44	26.76	30.18	32.09	↑ 1.90	33.72	34.04	32.24	26.72	17.69	
Bakken (Coking)	20.93	21.40	22.27	27.08	↑ 4.81	27.66	27.94	28.34	23.17	15.79	
<b>Singapore</b>											
Dubai (Hydroskimming)	1.55	0.13	0.99	2.74	↑ 1.75	2.57	2.96	3.17	2.15	0.83	
Tapis (Hydroskimming)	3.99	1.34	0.82	3.99	↑ 3.17	3.46	4.42	5.42	2.27	0.21	
Dubai (Hydrocracking)	5.55	4.91	4.56	4.31	↓ -0.25	4.09	4.80	4.58	3.47	2.09	
Tapis (Hydrocracking)	7.11	5.08	3.65	5.17	↑ 1.52	4.59	5.80	6.51	3.28	1.11	

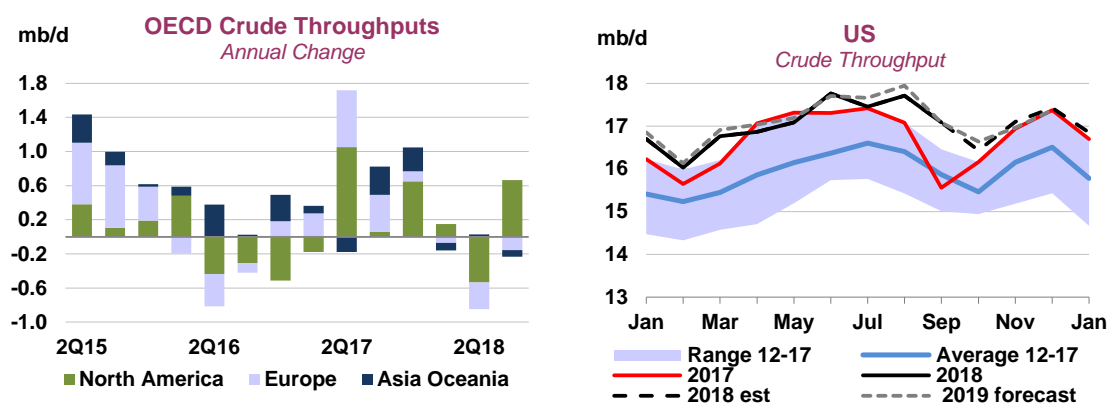
<sup>1</sup> Global Indicator Refining Margins are calculated for various complexity configurations, each optimised for processing the specific crude(s) in a specific refining centre. Margins include energy cost, but exclude other variable costs, depreciation and amortisation. Consequently, reported margins should be taken as an indication, or proxy, of changes in profitability for a given refining centre. No attempt is made to model or otherwise comment upon the relative economics of specific refineries running individual crude slates and producing custom product sales, nor are these calculations intended to infer the marginal values of crude for pricing purposes.

Source: IEA, KBC Advanced Technologies (KBC)



## OECD refinery throughput

September data for OECD countries was finalised 440 kb/d lower, with an even larger downgrade in Europe, as Germany's preliminary reporting turned out to be too optimistic. Preliminary data for October is also lower, by 330 kb/d, compared to our forecast. After the September and October slowdown, OECD throughputs ramped up in November and December, but are not expected to reach the August peak rates of 40.2 mb/d, staying just above 40 mb/d. In 2018, OECD throughput declines by 170 kb/d y-o-y, but in 2019 there is robust growth of 530 kb/d on further increases in North America and an expected recovery in Europe.



**Refinery Crude Throughput and Utilisation in OECD Countries**  
(million barrels per day)

	May 18	Jun 18	Jul 18	Aug 18	Sep 18	Oct 18	Change from		Utilisation rate <sup>1</sup>	
					Sep 18	Oct 17	Sep 18	Oct 17	Oct 18	Oct 17
US <sup>2</sup>	16.99	17.67	17.36	17.61	16.99	16.34	-0.65	0.27	86%	85%
Canada	1.33	1.71	1.78	1.78	1.76	1.63	-0.14	-0.07	81%	88%
Chile	0.16	0.18	0.18	0.19	0.19	0.19	0.00	0.02	84%	77%
Mexico	0.69	0.65	0.64	0.68	0.61	0.48	-0.12	-0.05	29%	32%
<b>OECD Americas<sup>3</sup></b>	<b>19.18</b>	<b>20.21</b>	<b>19.95</b>	<b>20.27</b>	<b>19.54</b>	<b>18.64</b>	<b>-0.90</b>	<b>0.17</b>	<b>81%</b>	<b>81%</b>
France	0.78	1.04	1.18	1.22	1.24	1.21	-0.02	-0.02	98%	100%
Germany	1.83	1.93	1.90	1.89	1.56	1.51	-0.05	-0.48	75%	98%
Italy	1.34	1.28	1.33	1.44	1.35	1.29	-0.05	-0.15	75%	83%
Netherlands	1.09	1.07	1.08	1.13	1.00	1.15	0.15	0.18	89%	75%
Spain	1.35	1.21	1.30	1.47	1.38	1.42	0.04	0.13	101%	92%
United Kingdom	0.98	1.07	1.09	1.17	1.16	1.15	-0.01	0.03	91%	88%
Other OECD Europe	4.17	4.27	4.53	4.60	4.42	4.17	-0.25	-0.13	86%	89%
<b>OECD Europe</b>	<b>11.53</b>	<b>11.88</b>	<b>12.40</b>	<b>12.91</b>	<b>12.09</b>	<b>11.90</b>	<b>-0.19</b>	<b>-0.45</b>	<b>86%</b>	<b>89%</b>
Japan	2.83	2.53	2.97	3.22	3.05	2.61	-0.44	-0.28	73%	81%
South Korea	3.13	3.03	3.15	2.97	2.98	3.12	0.14	-0.04	98%	100%
Other Asia Oceania	0.73	0.81	0.90	0.87	0.93	0.87	-0.06	-0.01	99%	101%
<b>OECD Asia Oceania</b>	<b>6.69</b>	<b>6.37</b>	<b>7.03</b>	<b>7.05</b>	<b>6.96</b>	<b>6.59</b>	<b>-0.37</b>	<b>-0.33</b>	<b>87%</b>	<b>91%</b>
<b>OECD Total</b>	<b>37.40</b>	<b>38.46</b>	<b>39.38</b>	<b>40.23</b>	<b>38.59</b>	<b>37.13</b>	<b>-1.46</b>	<b>-0.61</b>	<b>84%</b>	<b>86%</b>

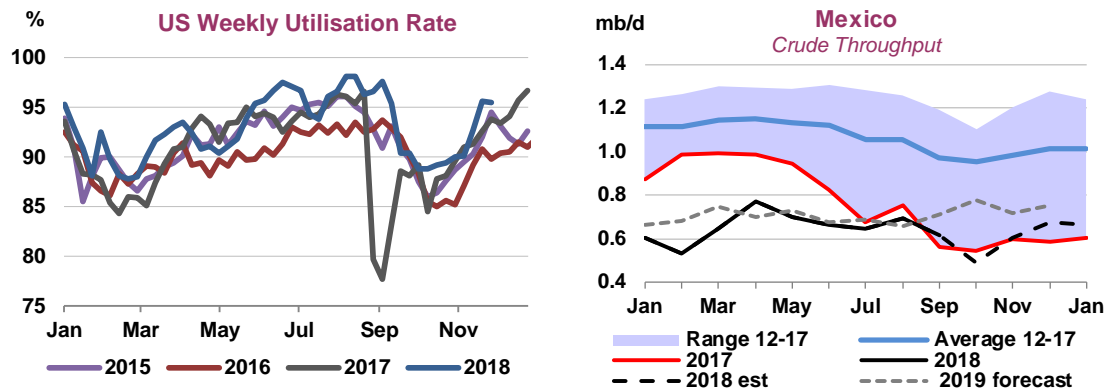
<sup>1</sup> Expressed as a percentage, based on crude throughput and current operable refining capacity

<sup>2</sup> US50

<sup>3</sup> OECD Americas includes Chile and OECD Asia Oceania includes Israel. OECD Europe includes Slovenia and Estonia, though neither country has a refinery

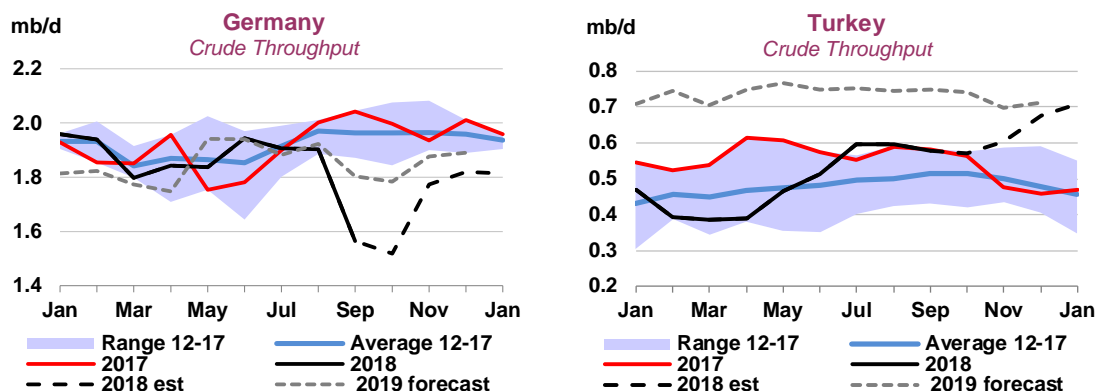
US throughput fully recovered in November, reaching 17.5 mb/d in the second half of the month, implying utilisation rates of 95%. This year's lowest utilisation rate in the US of 85% was still higher than the global average, showing the decreasing scope for further increases in US refinery intake. With not

much capacity expected to come online in 2019, the US system is forecast to see a sharp slowdown in growth, from 350-400 kb/d in 2017 and 2018 to just 90 kb/d. **Canada** takes over as the largest source of North American growth, partly due to a strong rebound from especially heavy maintenance last spring, but also thanks to the full ramp-up of the Sturgeon refinery that came online in 2018. After an 80 kb/d decline in 2018, Canadian throughput is forecast to increase by 140 kb/d in 2019.

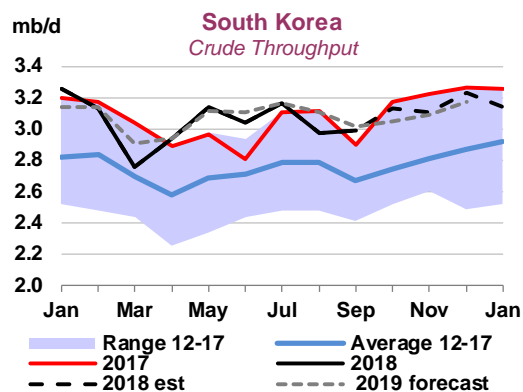
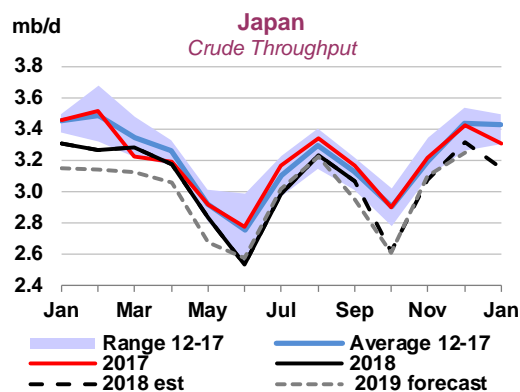


In **Mexico**, instead of an expected small recovery, October throughput fell below 500 kb/d for the first time in many decades, with utilisation rates at just 29%. The underperformance is not only a result of declining domestic light crude output and lack of refinery investment, but also the rationing of increasingly scarce domestic natural gas for industrial purposes. Meanwhile, a national referendum approved the new president's proposed construction of a 300 kb/d new refinery. Financing of the new plant will pose a particularly challenging task for heavily indebted Pemex.

After robust growth of 340 kb/d in 2017, throughput in OECD Europe is expected to fall back by 210 kb/d this year. Early in 2018, underperformance in France, UK and Turkey weighed on the region's throughput levels, while in recent months the cause has shifted to **Germany**, which has the largest refining system in Europe. German runs in September were down to 1.55 mb/d, the lowest level in our monthly records as a general slowdown in the autumn maintenance period coincided with a fire at a major refinery. Extremely low River Rhine water levels, the main conduit for German gasoline exports into international markets, might also have contributed to lower refining rates. Delays have been reported to the startup of **Turkey's** new STAR refinery, pushing back the full ramp-up to next year.

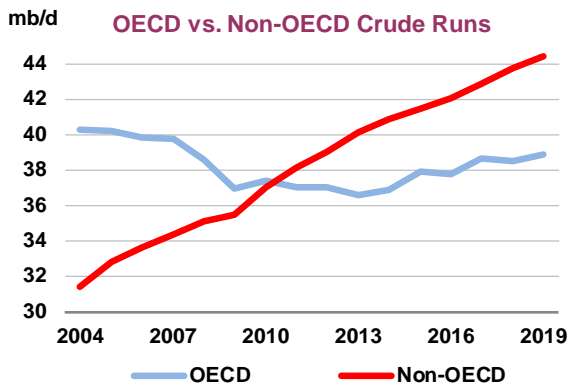
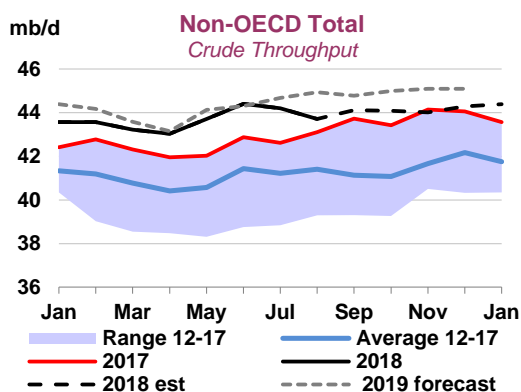


In **Japan**, many unplanned outages in September, including those caused by typhoons and an earthquake, and maintenance in October, resulted in new seasonal lows for refinery throughput. After three years of relative stability, Japan's refining activity has begun to fall once again, with a decline of 130 kb/d expected in 2018. **South Korea**, meanwhile will fail to grow for the first time since 2013.

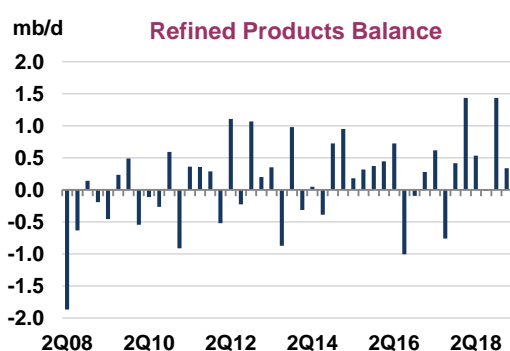
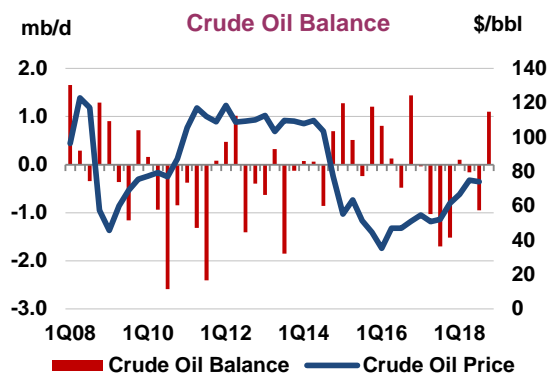


## Non-OECD refinery throughput

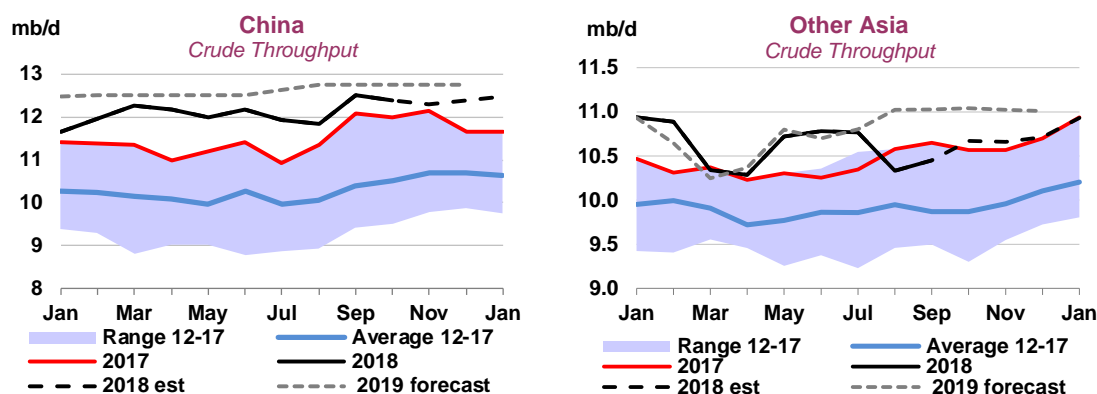
Revisions to Iran, Algeria, the UAE and a number of other non-OECD countries have increased our estimated total non-OECD figures by about 200 kb/d throughout our historical series starting in 2006. For Iran and Algeria, we added an estimate for condensate splitter runs which are not included in JODI crude throughput numbers. For the UAE, we have improved our methodology of estimating total throughput as JODI monthly data only seems to capture Abu Dhabi's refining activity. Overall, non-OECD throughput in September, which is the latest JODI reporting month, is estimated at just above 44 mb/d, 5.4 mb/d higher than OECD levels.



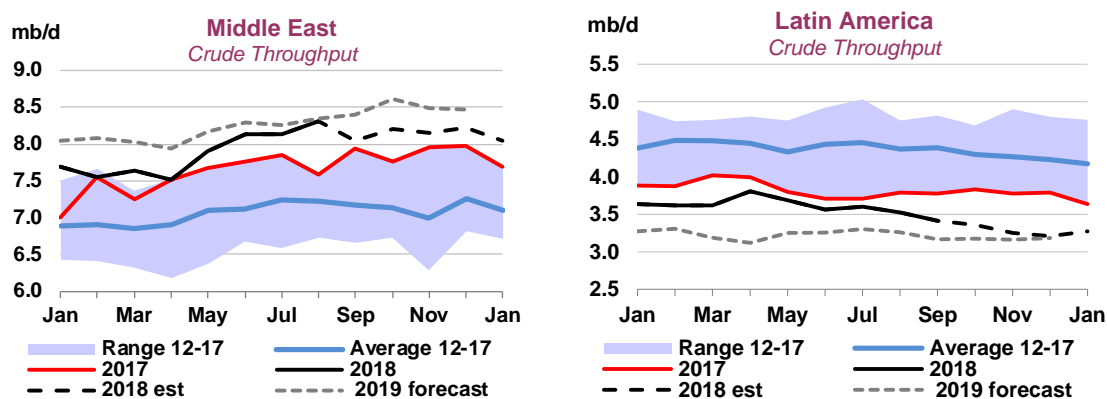
The adjustment to historical runs data has improved our calculations of historical balances for crude oil and refined products. Our implied global crude oil balances now look more in line with oil price developments. At the same time, a larger refined product balance makes more sense when compared to growing refining capacity and demand in non-OECD countries, as well as the need for higher working inventories in an expanding product distribution system.



After hitting a historical high of 12.4 mb/d in September, **Chinese** crude throughput dropped slightly in October to 12.3 mb/d. Domestic margins are deteriorating alongside lower crude prices. This counter-intuitive outcome is due to the domestic product price control formula tied to international crude oil prices. The National Development and Reform Commission has lowered gasoline and diesel retail price caps by a cumulative RMB 1 425/t and RMB 1 375/t (\$24.5/bbl and \$26.5/bbl) respectively, since the start of November. Retailers have reportedly postponed buying from refineries, expecting further price cuts. November throughput is estimated to have declined to 12.2 mb/d before rebounding in December when the new Hengli refinery is scheduled to start trial runs.



**Indian** throughput recovered slightly to 5.15 mb/d in October, but was below the year earlier level. There is a particularly heavy maintenance programme planned for next year to prepare refineries for the new nationwide fuel quality standard – Bharat VI, entering into force in 2020. This could result in the first annual decline in refinery runs since 2005.



Historical data revisions boosted our Middle East baseline by about 200 kb/d since the start of 2017. While adjusting **Iranian** throughput to incorporate Persian Gulf Star condensate splitters, we have not included an estimate for the condensate throughput in the Borzouyeh aromatics complex, which has the capacity to process about 100 kb/d of condensate into petrochemical products.

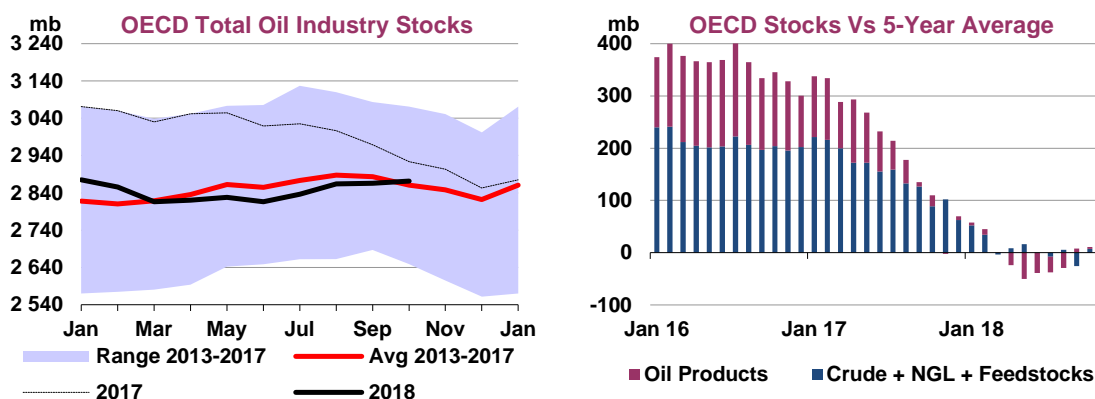
Following recent news of the complete shutdown of **Venezuela's** Amuay complex, we have cut our 2019 throughput forecast by another 90 kb/d. **Brazil**, which now accounts for more than half of Latin America's throughput, saw a small increase in runs in October to 1.76 mb/d, albeit below our estimate. REPLAN (Paulinia) refinery is taking longer than expected to fully restore operations after a fire in August.

In the FSU, **Azerbaijan** and **Belarus** reported stronger than expected September throughput, up by 110 kb/d combined. **Russian** October data finalised 50 kb/d lower, to 5.5 mb/d, but November preliminary data show a 300 kb/d rebound month-on-month.

# STOCKS

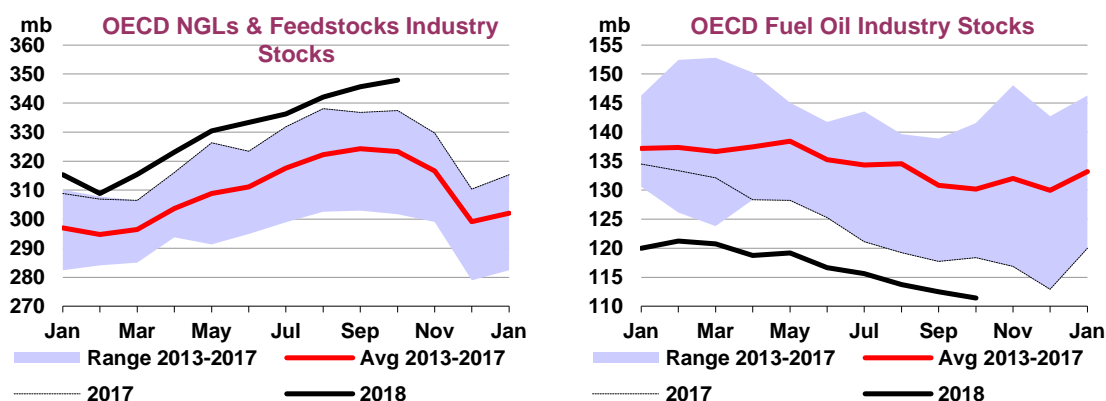
## Summary

OECD commercial stocks rose for the fourth straight month in October, by 5.7 mb, to reach 2 872 mb. They stood at their highest level since January and were for the first time in several months above the five-year average, by 11 mb. In October, OECD refiners usually reduce their crude purchases and throughput rates, leading to an overall crude build and a much bigger fall in oil product inventories (and an overall oil stock draw). However, this time, crude stocks built more than usual and, in the process, more than offset seasonal draws in oil product inventories.



OECD crude stocks gained 46.4 mb in October to 1 085 mb. This was the largest monthly stock increase since March 2015, at the peak of global crude oversupply, and almost three times as much as normal for the time of year. This was caused by a combination of factors: a steep fall in refining activity in the US and Japan, higher North American crude production and steady crude imports in Japan and Korea.

NGL and feedstock inventories rose by a modest 2.3 mb month-on-month (m-o-m). Even so, they hit their highest level since IEA records began in 1980. This is a structural, rather than cyclical increase, driven by higher US oil and gas production. NGL stocks have been more or less stable in other OECD regions. By contrast, OECD fuel oil stocks dropped to a fresh historic low, as volumes fell further in Europe and Asia Pacific. Most of the downward adjustment for fuel oil in the past few years has occurred in Europe owing to lower output at Russian refineries and regulatory initiatives to move to gasoil bunkering for ships sailing in European waters. The transition away from fuel oil for all vessels from the start of 2020 will incentivise European stockholders to reduce their fuel oil volumes further. At the same time, it will create additional surpluses at refineries.



Middle distillate inventories declined the most of any category, by 29.7 mb m-o-m, to 535 mb. While this is largely in line with seasonal patterns, it means that stocks remain below the five-year average ahead of the key winter heating season. Gasoline stocks fell seasonally, by 5.6 mb to 373 mb, and 'other products' decreased 6.6 mb to 418 mb.

Preliminary data for November are mixed, as a build in Japan offset moderate stock falls in Europe and the US. Japan's total oil stocks increased 10.6 mb because of higher refining activity and warm weather, while in the US, oil stocks fell seasonally, by 6.2 mb m-o-m. European inventories fell 3.6 mb m-o-m.

#### Preliminary Industry Stock Change in October 2018 and Third Quarter 2018

	October 2018 (preliminary)				Third Quarter 2018			
	(million barrels)				(million barrels per day)			
	Am	Europe	As. Ocean	Total	Am	Europe	As. Ocean	Total
<b>Crude Oil</b>	<b>31.3</b>	<b>-1.6</b>	<b>16.7</b>	<b>46.4</b>	<b>1.01</b>	<b>-0.05</b>	<b>0.54</b>	<b>1.50</b>
Gasoline	-9.3	1.9	1.8	-5.6	-0.30	0.06	0.06	-0.18
Middle Distillates	-16.8	-11.0	-1.9	-29.7	-0.54	-0.36	-0.06	-0.96
Residual Fuel Oil	0.3	-0.2	-1.2	-1.1	0.01	-0.01	-0.04	-0.03
Other Products	-4.2	-2.3	-0.1	-6.6	-0.13	-0.08	0.00	-0.21
<b>Total Products</b>	<b>-29.9</b>	<b>-11.7</b>	<b>-1.3</b>	<b>-42.9</b>	<b>-0.97</b>	<b>-0.38</b>	<b>-0.04</b>	<b>-1.39</b>
Other Oils <sup>1</sup>	0.8	2.0	-0.5	2.3	0.03	0.06	-0.02	0.07
<b>Total Oil</b>	<b>2.2</b>	<b>-11.3</b>	<b>14.9</b>	<b>5.7</b>	<b>0.07</b>	<b>-0.36</b>	<b>0.48</b>	<b>0.18</b>

<sup>1</sup> Other oils includes NGLs, feedstocks and other hydrocarbons.

OECD inventories were revised down 9.4 mb in September as lower figures for Europe and Asia Oceania offset higher estimates for the Americas. August OECD stocks were revised up, by 1 mb.

#### Revisions versus November 2018 Oil Market Report

	(million barrels)							
	Americas		Europe		Asia Oceania		OECD	
	Aug-18	Sep-18	Aug-18	Sep-18	Aug-18	Sep-18	Aug-18	Sep-18
<b>Crude Oil</b>	<b>1.6</b>	<b>-1.0</b>	<b>-0.1</b>	<b>-6.8</b>	<b>-0.2</b>	<b>-7.2</b>	<b>1.3</b>	<b>-15.0</b>
Gasoline	0.0	3.8	0.0	1.5	0.0	-0.7	0.0	4.6
Middle Distillates	-0.2	5.7	0.1	-4.5	0.0	0.2	-0.1	1.4
Residual Fuel Oil	0.0	0.1	-0.1	-1.2	-0.3	-0.4	-0.4	-1.5
Other Products	0.1	-0.4	-0.2	0.1	0.1	-0.7	0.0	-1.0
<b>Total Products</b>	<b>-0.1</b>	<b>9.3</b>	<b>-0.2</b>	<b>-4.2</b>	<b>-0.2</b>	<b>-1.6</b>	<b>-0.5</b>	<b>3.5</b>
Other Oils <sup>1</sup>	0.0	1.4	0.1	0.5	0.0	0.3	0.1	2.1
<b>Total Oil</b>	<b>1.5</b>	<b>9.6</b>	<b>-0.2</b>	<b>-10.5</b>	<b>-0.4</b>	<b>-8.5</b>	<b>1.0</b>	<b>-9.4</b>

<sup>1</sup> Other oils includes NGLs, feedstocks and other hydrocarbons.

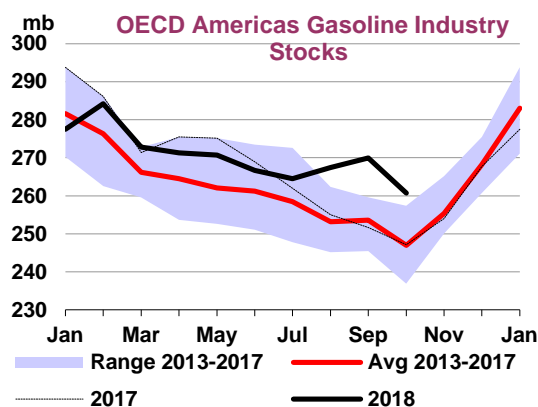
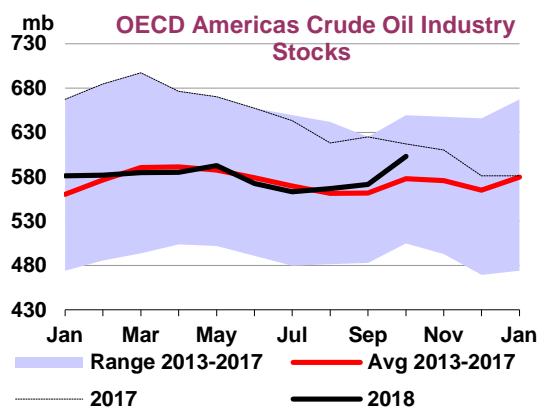
## Recent OECD industry stock changes

### OECD Americas

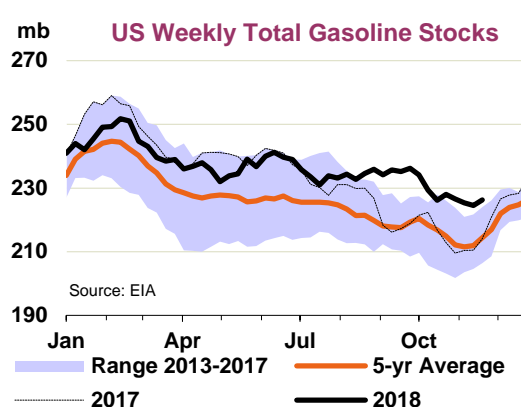
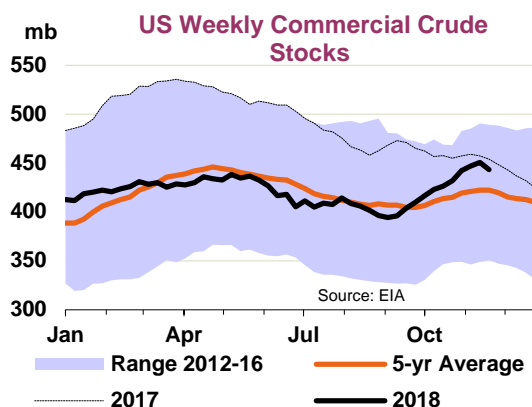
Commercial stocks in OECD Americas rose counter-seasonally in October, by 2.2 mb to 1 543 mb, thus reaching their highest level in a year. The region's stocks have increased well above seasonal norms in the last few months because of higher US LTO production and strong LPG restocking. They stood 55 mb above the five-year average at the end of the month. Most of the gains occurred in Canada and the US.

In October, crude stocks increased by a significant 31.3 mb to 603 mb as refiners reduced throughput for seasonal maintenance work and with ongoing production gains in Canada and the US. US crude exports reached a record 2.3 mb/d during the month, up 210 kb/d from September, according to the US Census Bureau, but this was not enough to arrest builds. There were higher volumes shipped to Canada (+130 kb/d to 470 kb/d), Korea (+170 kb/d to 460 kb/d), India (+70 kb/d to 250 kb/d) and Japan (+20 kb/d to 170 kb/d), but lower flows to the UK and the Netherlands. US crude imports, meanwhile, fell around 300 kb/d m-o-m to 7.5 mb/d, Energy Information Administration data showed.





Oil product stocks declined in line with seasonal expectations, by 29.9 mb on the month, to 735 mb. The largest draw was for middle distillates (-16.8 mb to 199 mb), followed by gasoline (-9.3 mb to 261 mb). Gasoline stocks remain well above the five-year average following high refinery runs over the last few months and moderate growth in demand, while distillate stocks are only slightly below the average. 'Other product' stocks (largely US LPG) fell 4.2 mb on the month, marking the start of the winter heating season. Holdings appear plentiful following strong restocking during March-September.

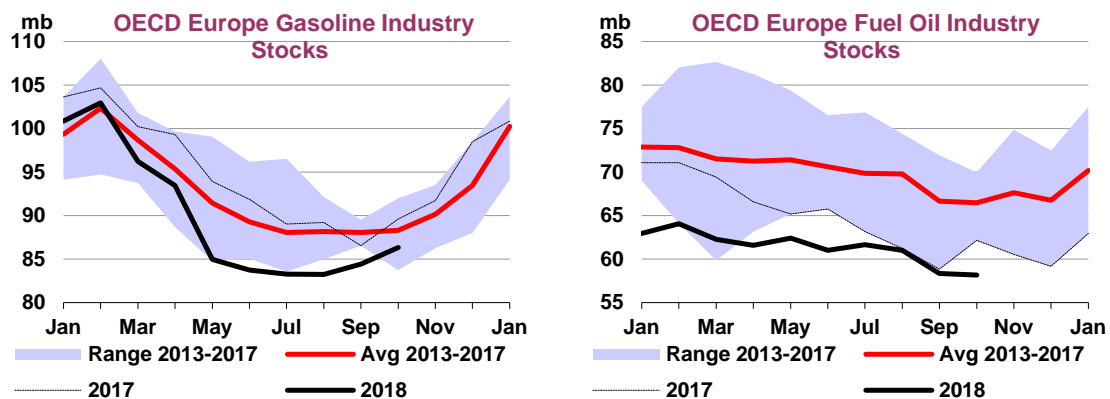


Preliminary November data from the EIA show a continuation of the trends observed in October, even if the return from maintenance of some refineries in the Midwest meant individual stock categories moved less dramatically. Crude stocks increased 13 mb m-o-m with gains registered in both PADD 2 (Midwest) and PADD 3 (Gulf Coast) spurred by higher LTO production and despite a sizeable increase in refinery runs and record high crude exports. Exports averaged 2.4 mb/d and in the last week of November, they reached 3.2 mb/d, a new record. Gasoline inventories fell by a counter-seasonal 1.2 mb m-o-m as imports into the East Coast fell sharply and as refiners minimised production in the face of poor margins. Propane stocks fell seasonally, by 4.3 mb, jet stocks dropped 4.3 mb and diesel stocks increased by 1.8 mb. Additionally, the Strategic Petroleum Reserve drew 5.2 mb on the month to 650 mb as the Department of Energy sold further volumes.

## OECD Europe

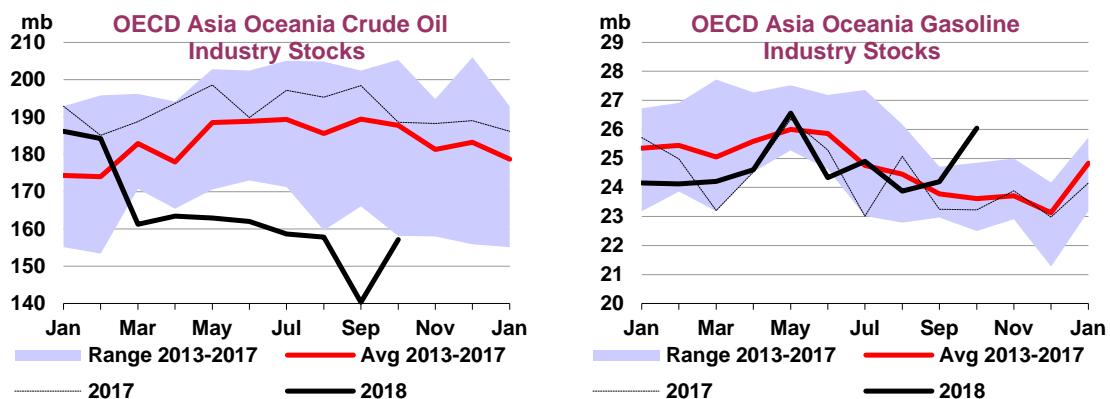
Commercial stocks in OECD Europe decreased seasonally by 11.3 mb to reach 925 mb at the end of the month, their lowest level since February 2015. Middle distillate holdings declined 11 mb, in line with seasonal norms, to reach 261 mb, as refiners reduced throughput. They remained well below the five-year average at the end of the month. There were also declines in crude holdings (-1.6 mb), fuel oil (-0.2 mb) and 'other products' (-2.3 mb). Most of the long-term decline in the region's inventories since 2015 can be attributed to products such as gasoline and fuel oil. Gasoline stocks have fallen because of

higher consumption in Europe and abroad, while fuel oil's demise is linked to lower Russian production and regulatory initiatives to move to gasoil bunkering for ships sailing in European waters.



Preliminary data for November from *Euroilstock* showed European oil stocks decreasing by 3.6 mb on the month, largely because of crude (-5.3 mb) and middle distillates (-2 mb). Other oil product holdings such as gasoline (+2.5 mb), fuel oil (+0.8 mb) and naphtha (+0.4 mb) increased, on higher refinery output.

### OECD Asia Oceania



Commercial holdings in OECD Asia Oceania increased counter-seasonally in October, by 14.9 mb m-o-m to 404 mb. They remained 29 mb below the five-year average, the largest deficit among all OECD regions. Crude stocks went up 16.7 mb from September's historic low to reach 157 mb at end month, as refiners reduced runs and as imports increased to their highest level in several months. By contrast, oil product inventories fell seasonally by 1.3 mb to 182 mb. There were decreases in middle distillates (-1.9 mb), fuel oil (-1.2 mb) and 'other products' (-0.1 mb), whereas gasoline holdings increased 1.8 mb.

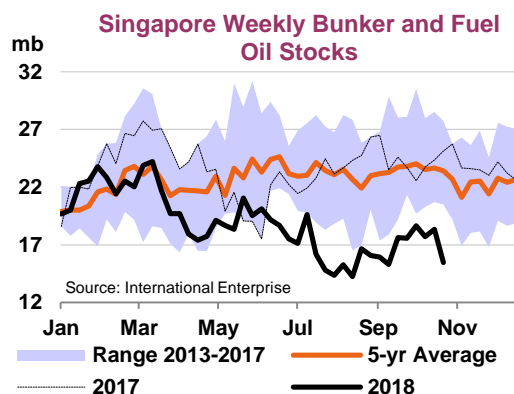
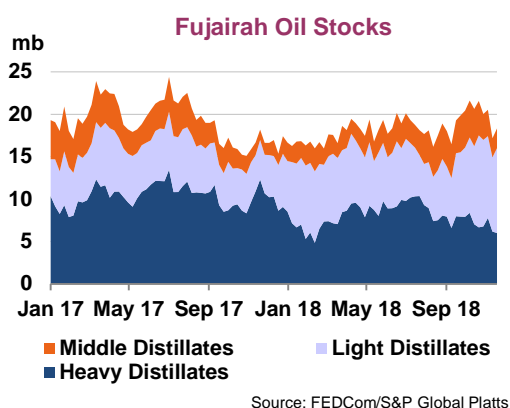
Preliminary November data from the *Petroleum Association of Japan* (PAJ) show total oil stocks increasing significantly for the second month, by 10.6 mb, helped by warm weather and higher refinery activity. Kerosene inventories built 1 mb, whereas they normally draw. Most stock categories increased, including crude (+1.2 mb), gasoline (+0.5 mb), jet fuel (+1.1 mb) and fuel oil (+0.8 mb).

### Other stock developments

Stockpiles in the 21 non-OECD countries covered by the JODI database fell 2.4 mb m-o-m in September. There were large reductions in crude holdings in several countries, including: Saudi Arabia, Thailand, Angola, Croatia, and Romania. Oil product stocks, by contrast, increased 9.5 mb. There was also a significant downward movement in Nigerian stocks (not reported in the above totals) of 15.9 mb, which

could be a data error. Overall, during 3Q18, JODI inventories fell 16.1 mb (175 kb/d) compared with the end of June. This contrasts with the OECD, where stocks increased 535 kb/d during the same period.

Short-term crude floating storage rose 2.3 mb in November to 16 mb, as additional Iranian tankers joined the fleet of vessels idled offshore, according to *EA Gibson*, following the imposition of US sanctions on the country's oil exports. The Middle East Gulf region made up two-thirds of all global floating storage volumes at the end of the month.

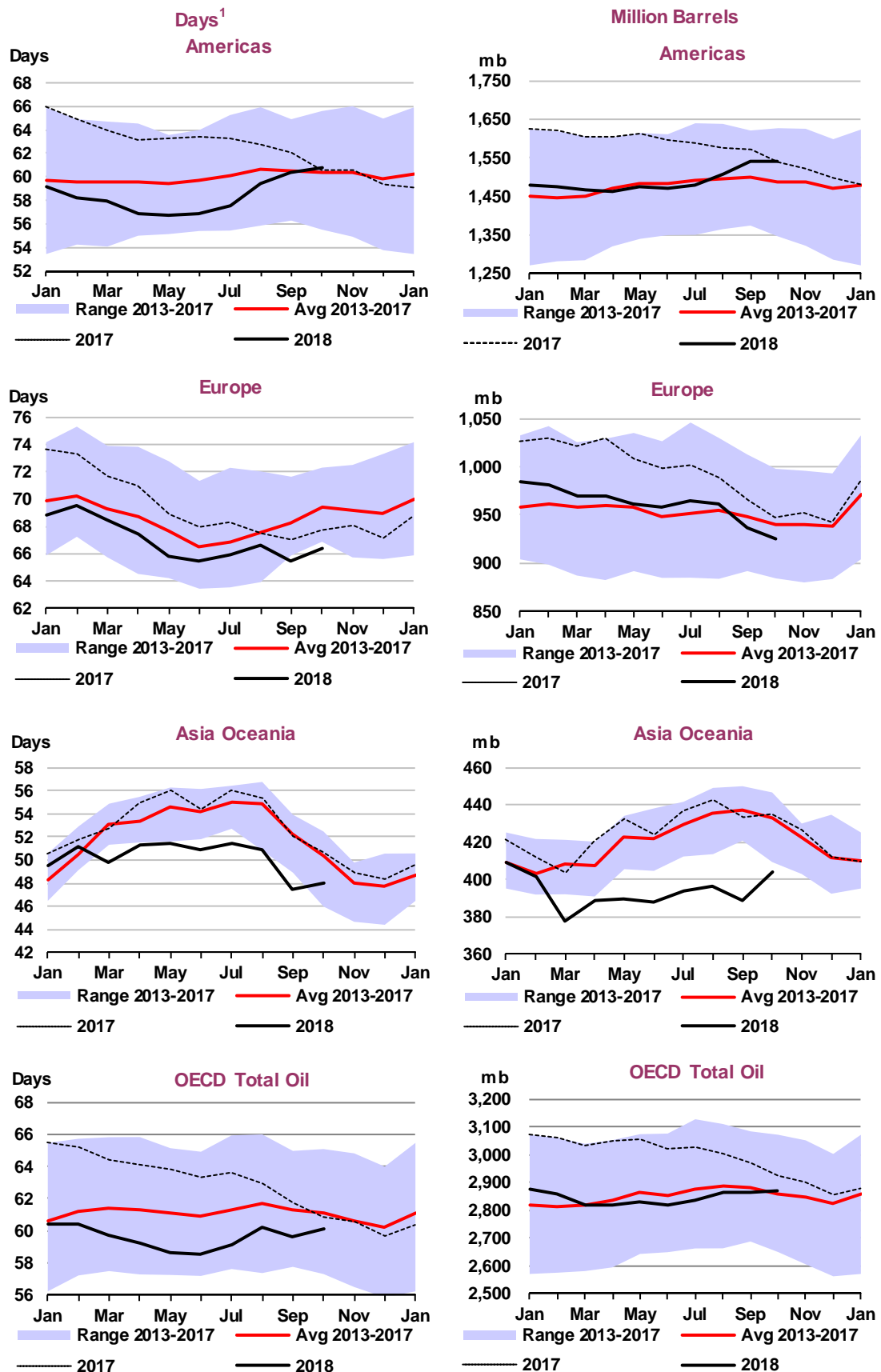


Import data from Chinese customs as well as estimates for crude production and refinery throughput imply a significant crude stock build of 45 mb (1.5 mb/d) during November, the largest volume ever recorded, as refinery throughput declined despite higher crude imports. Satellite-based figures from *Kayrros* show a lesser but still substantial build of more than 20 mb for the month. Statistics from *China Oil, Gas and Petrochemicals* have not been published for six straight months.

Oil stocks in Fujairah decreased 3.1 mb in November to reach 18 mb at the end of the month. Fuel oil and bunker inventories fell 0.9 mb and, at 6 mb, were at their lowest level since February, data from *S&P Global Platts* and *FEDCom* showed. Singapore's oil inventories built by a significant 7 mb m-o-m to reach 44 mb at end-November, according to *International Enterprise*. Fuel oil and bunker stocks hit their highest level since May, up from the very low levels recorded in October.

## Regional OECD End-of-Month Industry Stocks

(in days of forward demand and million barrels of total oil)



1 Days of forward demand are based on average demand over the next three months

# PRICES

## Market overview

After falling for nine consecutive weeks, oil prices ticked up in the first week of December as OPEC and some non-OPEC producers reached an agreement to cut supplies. A government-mandated output cut in Canada saw local crude prices rebound from record lows. Meanwhile, prices for sour grades such as Urals and Maya strengthened, alongside fuel oil cracks, as supplies from Iran and Venezuela continued to fall. In products markets, weak demand for gasoline and naphtha saw cracks hit multi-year lows. Freight rates to ship crude and products soared. Weather delays, strong demand and changing trade patterns as US crude and product exports grew contributed to the gains.

## Futures markets

Oil futures prices continued their steep decline in November. ICE Brent and NYMEX WTI both fell by almost \$15/bbl (20%) over the month and have come down by \$25/bbl (30%) since the four-year highs seen in early October to reach 13-month lows. A sharp increase in global supplies, the United States' decision to issue Iranian sanctions waivers and a softer outlook for oil demand were the main factors. The forward curves for Brent and WTI are in contango, with front-month (M1) prices lower than those priced for delivery over the next 12 months. This signals that market participants perceive there to be adequate prompt supply in the market. In early December, leading producers agreed to cut production by 1.2 mb/d in response to rising stocks. Since the end of November, Brent and WTI prices have gained 3% and 1%, respectively, at the time of writing.

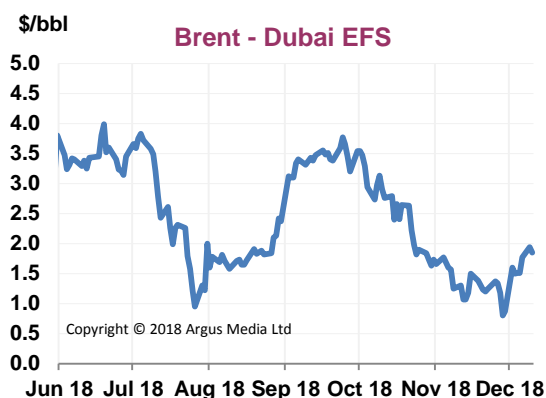
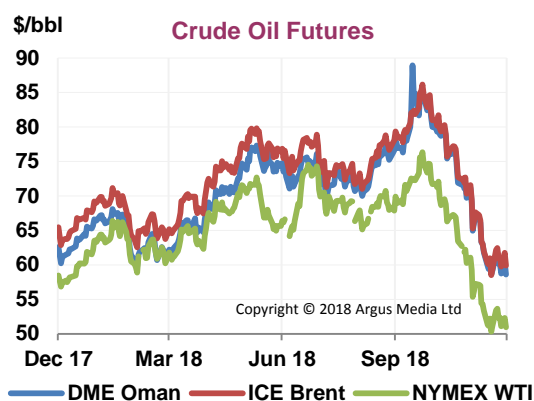
### Prompt Month Oil Futures Prices

(monthly and weekly averages, \$/bbl)

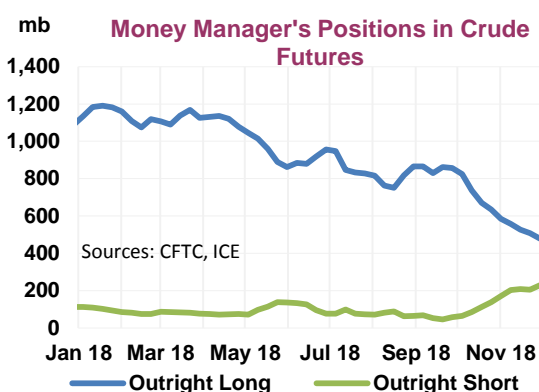
	Sep	Oct	Nov	Nov-Oct Avg Chg	% Chg	Week Commencing:				
						05 Nov	12 Nov	19 Nov	26 Nov	03 Dec
<b>NYMEX</b>										
Light Sweet Crude Oil	70.08	70.76	56.69	-14.07	-19.9	61.57	56.96	53.81	51.17	52.64
RBOB	84.55	81.96	65.47	-16.49	-20.1	69.71	66.14	62.80	60.12	60.81
ULSD	94.58	98.04	86.06	-11.99	-12.2	92.09	87.88	83.19	78.17	79.14
ULSD (\$/mmbtu)	16.68	17.29	15.18	-2.11	-12.2	16.24	15.50	14.67	13.79	13.96
Henry Hub Natural Gas (\$/mmbtu)	2.90	3.21	4.09	0.89	27.6	3.59	4.21	4.50	4.50	4.42
<b>ICE</b>										
Brent	79.11	80.63	65.95	-14.68	-18.2	71.64	67.02	62.84	59.53	61.41
Gasoil	92.94	96.92	84.54	-12.38	-12.8	91.36	86.55	81.19	76.26	77.73
<b>Prompt Month Differentials</b>										
NYMEX WTI - ICE Brent	-9.03	-9.87	-9.26	0.61		-10.07	-10.06	-9.03	-8.36	-8.77
NYMEX ULSD - WTI	24.50	27.28	29.37	2.08		30.52	30.92	29.38	27.00	26.50
NYMEX RBOB - WTI	14.47	11.20	8.78	-2.42		8.14	9.18	8.99	8.95	8.17
NYMEX 3-2-1 Crack (RBOB)	17.81	16.56	15.64	-0.92		15.60	16.43	15.79	14.97	14.28
NYMEX ULSD - Natural Gas (\$/mmbtu)	13.78	14.08	11.08	-3.00		12.65	11.29	10.18	9.29	9.54
ICE Gasoil - ICE Brent	13.83	16.29	18.59	2.30		19.72	19.53	18.35	16.73	16.32

Source: ICE, NYMEX.

While total global supplies have increased, declines in Iran and Venezuela have removed significant volumes of sour crude from the market. As such, the DME Dubai forward curve remains in backwardation, although it has flattened. The Brent-Dubai Exchange of Futures for Swaps fell by \$1.29/bbl month-on-month (m-o-m) reflecting the relative abundance of light sweet crude and enhancing the competitiveness of Brent-linked oil in Asian markets. The ICE Brent-NYMEX WTI differential remains wide at \$9.26/bbl on average in November.



Money managers have slashed their net long positions in ICE Brent and NYMEX WTI crude futures. These now stand at 250 mb, the lowest since January 2016. Hedge funds have stepped up their bets that crude prices will fall, with outright short positions increasing to 229 mb, three times the level when oil prices peaked at the beginning of October.



Market tightness in Asia has caused steeper backwardation in fuel oil markets, with M1 380-centistoke High Sulphur Fuel Oil (HSFO) swaps in Singapore commanding on average \$1.69/bbl over M2 contracts. Backwardation of the ICE gasoil futures curve has eased from \$2.25/bbl on 7 November to \$0.77/bbl by end-month as weakening demand reduces pressure on M1 prices. Seasonally tighter jet markets in North West Europe saw backwardation of the swaps curve increase by \$0.41/bbl on average m-o-m.

## Spot crude oil prices

The discount of WTI Cushing to North Sea Dated narrowed by \$2.70/bbl in November, although it remained relatively wide at \$7.68/bbl. This, and higher freight rates, have reduced the attractiveness of US exports. The differential for sour Mars fell by \$1.03/bbl m-o-m against WTI Cushing as Chevron started up its Gulf of Mexico Big Foot project, which has production capacity of 75 kb/d and feeds into the Mars system. However, Maya gained \$1.22/bbl m-o-m against WTI Cushing, reflecting a tightening in global supplies of sour oil. Bakken crude fell by \$5.99/bbl m-o-m against WTI Cushing on lower demand from refiners undergoing maintenance and as production continued to grow even in the face of infrastructure constraints. Around a quarter of Bakken output feeds into Enbridge's Mainland pipeline, which is operating at capacity as it transports exports from Canada. Since early December, Bakken differentials have narrowed by \$11.05/bbl as winter weather is expected to hamper field operations and slow the pace of Bakken output growth. The discount of WTI Midland to WTI Cushing narrowed by \$0.51/bbl m-o-m thanks to the start-up of the Plains All American's Sunrise pipeline, which is transporting an additional 350 kb/d of crude from the Permian basin towards Colorado City and Wichita Falls.



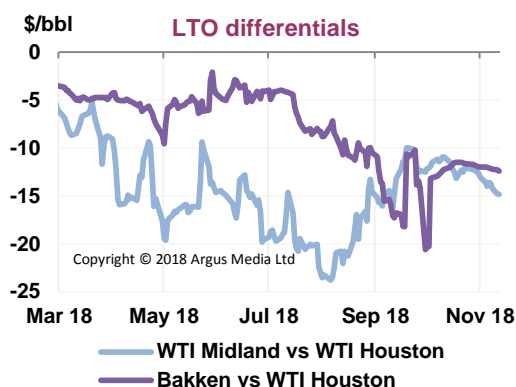
## Spot Crude Oil Prices and Differentials

(monthly and weekly averages, \$/bbl)

	Sep	Oct	Nov	Nov-Oct Avg Chg	%	Week Commencing:				
						05 Nov	12 Nov	19 Nov	26 Nov	03 Dec
<b>Crudes</b>										
North Sea Dated	78.80	81.12	64.66	-16.46	-20.3	70.05	65.93	61.33	58.69	61.01
Brent (Asia) Mth 1	79.96	81.47	66.68	-14.79	-18.2	72.00	68.22	64.60	60.08	62.19
WTI (Cushing) Mth 1	70.22	70.75	56.98	-13.77	-19.5	61.57	56.96	54.79	51.17	53.03
Urals (Mediterranean)	78.50	80.16	64.41	-15.75	-19.6	69.35	65.41	61.53	58.89	61.21
Dubai	77.22	79.40	65.54	-13.87	-17.5	70.69	67.03	63.56	59.19	60.71
Tapis (Dated)	79.60	81.47	61.89	-19.58	-24.0	68.50	63.55	58.23	55.03	57.21
<b>Differential to North Sea Dated</b>										
WTI (Cushing)	-8.57	-10.37	-7.68	2.70		-8.48	-8.97	-6.55	-7.51	-7.98
Urals (Mediterranean)	-0.30	-0.96	-0.25	0.71		-0.70	-0.52	0.20	0.20	0.20
Dubai	-1.57	-1.72	0.88	2.60		0.64	1.10	2.23	0.50	-0.30
Tapis (Dated)	0.80	0.35	-2.77	-3.11		-1.55	-2.38	-3.10	-3.66	-3.80
<b>Prompt Month Differential</b>										
Forward Cash Brent Mth1-Mth2	0.38	0.39	-0.29	-0.68		-0.25	-0.36	-0.30	-0.31	-0.33
Forward WTI Cushing Mth1-Mth2	0.34	0.03	-0.19	-0.21		-0.15	-0.19	-0.30	-0.17	-0.21
Forward Dubai Mth1-Mth2	0.74	0.73	0.24	-0.49		0.36	0.19	0.27	0.17	0.39

Copyright © 2018 Argus Media Ltd - All rights reserved

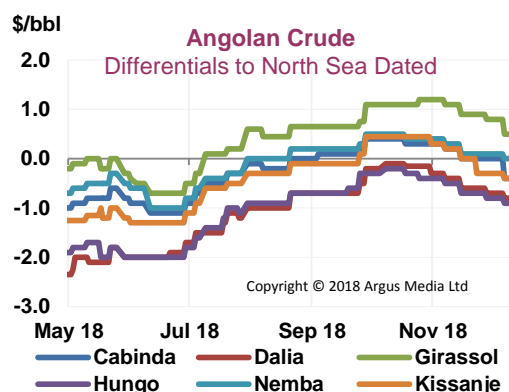
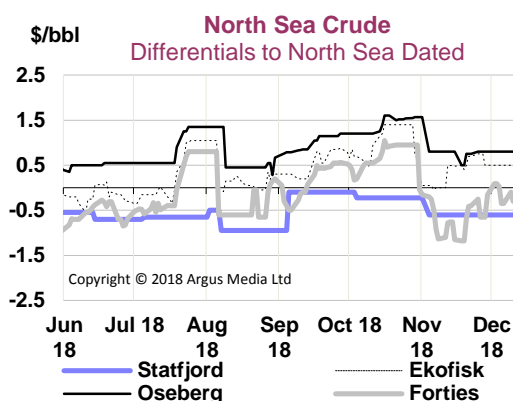
Western Canada Select (WCS) prices fell to \$13.76/bbl on 15 November, a \$42.98/bbl discount to WTI Cushing. In response, some Canadian operators announced that they would reduce output, delay expansion activity and increase storage. Meanwhile, Suncor continued to ramp up output at its Fort Hills project. During November, WCS gained \$5.72/bbl m-o-m against WTI Cushing, as US refinery demand picked up following maintenance. On 2 December, the government of Alberta announced a mandated shared production cut of 325 kb/d to alleviate infrastructure constraints and reduce crude inventories. Since then, the WCS discount has narrowed \$18/bbl to \$11/bbl. Historically, when unimpeded by bottlenecks, WCS has traded at a discount of around \$10/bbl or more to WTI Cushing due to quality differences and transportation costs.



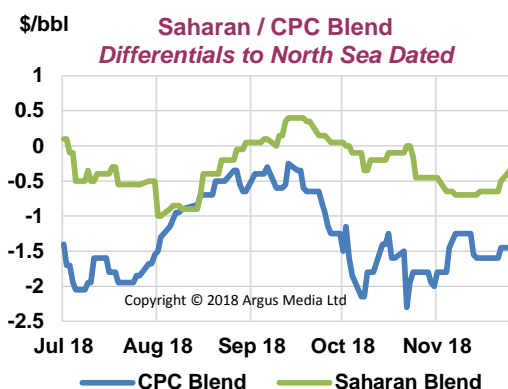
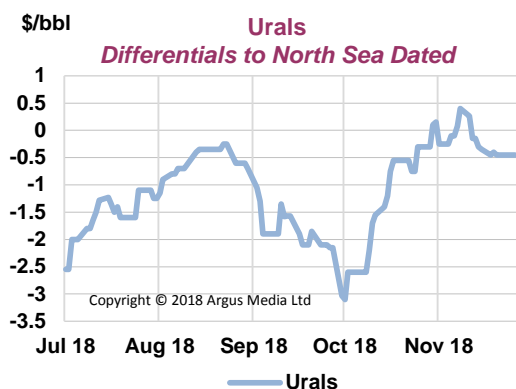
In the North Sea, prices for Brent, Forties, Oseberg and Ekofisk fell m-o-m against North Sea Dated. Despite the narrower Brent-Dubai EFS, Asian demand for North Sea crude was weak. The Forties differential fell \$1.35/bbl m-o-m as production from the Buzzard field was shut-in due to unplanned pipeline maintenance. As a result several Forties cargoes were dropped or delayed from the loading programme. Ekofisk prices fell by \$0.63/bbl against the benchmark as field maintenance hampered supplies.

Healthy diesel cracks in Asia Pacific had boosted demand for West African crude, and Angolan differentials hit an eight-month high at the end of October. In November, falling diesel cracks and significantly higher freight rates caused crude prices to weaken. The prices of all key Angolan grades fell

against North Sea Dated m-o-m. There was little change to Nigerian differentials m-o-m as downward pressure on prices was offset by healthy demand for January exports.



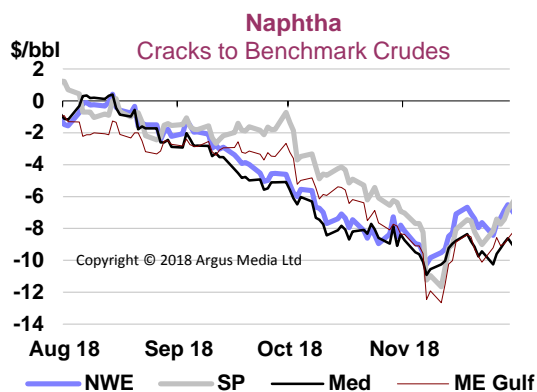
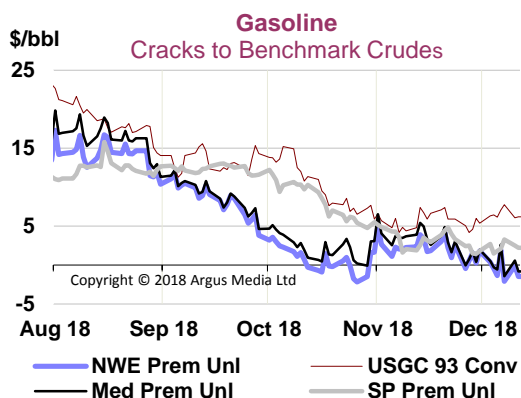
Urals in North West Europe gained \$1.87/bbl m-o-m to trade at a premium to North Sea Dated for the first time in a year. Strong global fuel oil cracks, along with the fall in the Brent-Dubai EFS, have supported the price as refiners look to replace supplies from Iran and Venezuela. However, demand has eased since mid-November as industrial action has hampered operations at a number of French refineries. Plentiful supplies of CPC Blend and weakness in gasoline and naphtha markets saw the differential to North Sea Dated hit a six-month low of \$2.30/bbl on 6 November. The same factors caused rival Saharan Blend to decline \$0.49/bbl m-o-m against North Sea Dated. BTC gained \$0.92/bbl m-o-m against the benchmark thanks to healthy diesel cracks.



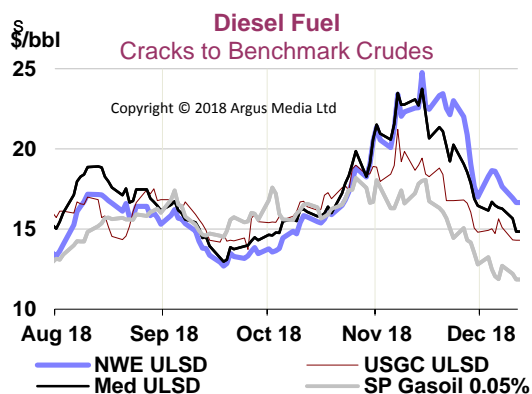
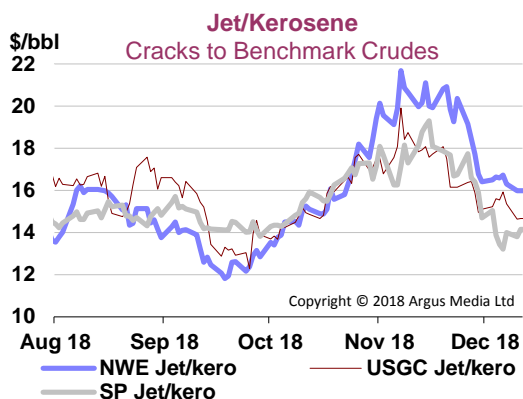
The lower Brent-Dubai EFS, down \$1.29/bbl m-o-m, reduced the attractiveness of Middle East crudes and this weighed on prices. Murban and Upper Zakum fell by \$0.28/bbl and \$0.16/bbl against Dubai m-o-m, respectively. Healthy fuel oil cracks boosted demand for Basra Light and its price held steady against Dubai m-o-m.

## Spot product prices

In November, gasoline markets continued to slide with cracks for super unleaded in the US and premium unleaded in Singapore down \$4.51/bbl and \$5.12/bbl m-o-m, respectively. In the US, there are plentiful supplies and demand has declined in line with seasonal patterns. In Asia, increased Chinese exports and output from new refineries saw prices fall \$18.99/bbl m-o-m. Meanwhile in China, where car sales have slowed, demand is unusually weak. In Europe, gasoline markets recovered slightly, with cracks for premium unleaded in North West Europe and the Mediterranean up \$1.37/bbl and \$0.73/bbl, respectively. They had fallen by around \$7/bbl in October. The market remains well supplied and there is weak export demand, except to West Africa and in particular Nigeria where the government is stockpiling gasoline ahead of elections next year.



Global naphtha cracks increased during November, although on average they were lower m-o-m as weaker demand for gasoline also translated to less demand for naphtha for blending. In Singapore, cracks were down \$4.02/bbl m-o-m to almost four-year lows. Furthermore, naphtha has been relatively expensive compared with rival feedstocks propane and LPG in petrochemicals production, although the price spread has narrowed slightly in recent weeks. This, and a pick-up in petrochemical demand from Japan and Korea, has caused cracks in Singapore to improve by \$5.05/bbl since 8 November.



In North West Europe, jet cracks hit a six-year high of \$21.68/bbl against North Sea Dated on 7 November. They have subsequently fallen \$5.69/bbl as imports from the Middle East and Asia arrived in the region. In the US, cracks were up \$1.78/bbl m-o-m but have declined after the Thanksgiving holiday. A mild start to winter in North Asia, in particular in Japan, and plentiful supplies thanks to additional Chinese export quotas saw the market well supplied. Cracks in Singapore fell \$5.16/bbl from a nine-month peak of \$19.31/bbl on 15 November.

Global diesel cracks gained m-o-m but have eased from the four-year highs reached in early November. In Europe, cracks for ultra-low sulphur diesel (ULSD) gained \$5.63/bbl m-o-m against North Sea Dated. A number of factors, including reduced imports from the US, Middle East, Asia and Russia saw the market tighten. However, exports from Primorsk have now picked up and European cracks have fallen \$6.05/bbl since 14 November. US diesel cracks have been falling since 7 November when they had reached \$21.21/bbl, the highest since September 2017. So far, mild weather has subdued winter heating demand. Furthermore, the end of autumn refinery maintenance has increased US diesel output.

In Singapore, gasoil cracks fell by \$0.48/bbl m-o-m as regional refining activity picked up following maintenance and supplies from Japan, Korea and China increased. Meanwhile demand has been lacklustre in Taiwan, Australia and, in particular, China as there is a seasonal slowdown in gasoil consumption.

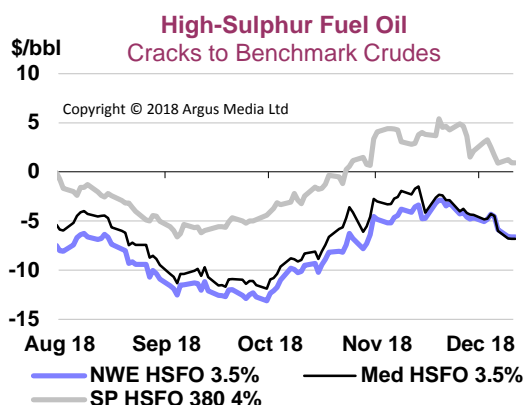
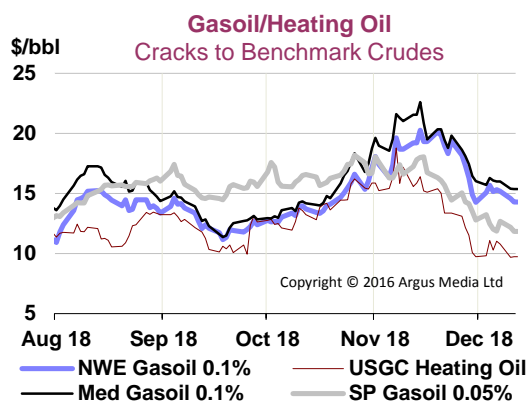
## Spot Product Prices

(monthly and weekly averages, \$/bbl)

	Sep	Oct	Nov	Nov-Oct		Week Commencing:					Sep	Oct	Nov	Chg
				Chg	%	12 Nov	19 Nov	26 Nov	03 Dec	10 Dec				
<b>Rotterdam, Barges FOB</b>														
	Differential to North Sea Dated													
Premium Unl 10 ppm	87.22	81.90	66.80	-15.09	-18.4	87.26	87.98	83.67	80.19	79.57	8.42	0.77	2.14	1.37
Naphtha	75.63	73.97	56.49	-17.49	-23.6	77.32	80.02	76.33	73.19	70.79	-3.17	-7.15	-8.17	-1.02
Jet/Kerosene	91.82	96.76	84.33	-12.43	-12.8	94.74	99.27	97.92	95.94	95.20	13.02	15.64	19.67	4.03
ULSD 10ppm	92.86	97.18	86.35	-10.83	-11.1	95.54	99.29	98.37	96.32	95.80	14.07	16.06	21.69	5.63
Gasoil 0.1%	91.42	95.32	82.89	-12.43	-13.0	94.28	98.21	96.68	94.32	94.02	12.63	14.20	18.23	4.03
LSFO 1%	68.40	74.03	63.49	-10.54	-14.2	71.26	75.17	75.05	73.55	73.54	-10.40	-7.09	-1.17	5.92
HSFO 3.5%	66.70	71.80	60.51	-11.29	-15.7	69.46	73.39	73.13	71.42	71.02	-12.10	-9.32	-4.15	5.17
<b>Mediterranean, FOB Cargoes</b>														
	Differential to Urals													
Premium Unl 10 ppm	87.40	82.53	67.51	-15.02	-18.2	87.82	88.97	84.49	81.20	80.62	8.90	2.37	3.10	0.73
Naphtha	74.54	72.58	54.99	-17.59	-24.2	76.17	78.66	74.88	71.70	69.41	-3.96	-7.57	-9.42	-1.84
Jet Aviation fuel	91.02	95.67	83.22	-12.45	-13.0	93.76	98.12	96.83	94.81	94.17	12.52	15.51	18.81	3.30
ULSD 10ppm	93.11	96.86	85.18	-11.68	-12.1	95.59	99.37	98.25	95.88	95.17	14.61	16.70	20.77	4.07
Gasoil 0.1%	91.62	95.18	84.05	-11.13	-11.7	94.28	97.64	96.36	94.22	93.81	13.12	15.02	19.64	4.62
LSFO 1%	69.32	74.90	65.05	-9.85	-13.2	71.99	75.59	75.45	74.30	74.80	-9.19	-5.26	0.64	5.90
HSFO 3.5%	67.65	72.47	61.41	-11.05	-15.3	70.18	73.79	73.52	72.06	71.92	-10.85	-7.69	-3.00	4.70
<b>US Gulf, FOB Pipeline</b>														
	Differential to LLS													
Super Unleaded	90.75	89.09	70.42	-18.67	-21.0	93.64	97.50	93.63	87.25	84.08	13.24	10.16	5.66	-4.51
Unleaded	85.20	82.76	64.96	-17.79	-21.5	88.04	90.79	85.87	81.42	78.30	7.68	3.83	0.20	-3.63
Jet/Kerosene	91.85	94.48	82.10	-12.39	-13.1	93.77	97.56	96.18	93.74	92.47	14.33	15.55	17.33	1.78
ULSD 10ppm	92.74	95.85	82.84	-13.01	-13.6	95.27	99.13	97.67	94.98	93.57	15.22	16.92	18.08	1.16
Heating Oil	89.11	92.78	79.43	-13.35	-14.4	91.97	96.14	94.38	91.96	90.38	11.59	13.85	14.66	0.82
No. 6 3%*	65.15	69.22	60.03	-9.19	-13.3	67.66	70.77	69.84	69.03	67.71	-12.36	-9.71	-4.73	4.97
<b>Singapore, FOB Cargoes</b>														
	Differential to Dubai													
Premium Unleaded	89.53	87.64	68.65	-18.99	-21.7	91.54	93.74	91.75	86.67	84.38	12.31	8.24	3.12	-5.12
Naphtha	75.39	74.90	57.01	-17.89	-23.9	77.90	80.65	77.18	74.35	72.61	-1.84	-4.50	-8.52	-4.02
Jet/Kerosene	91.75	95.16	82.97	-12.20	-12.8	93.83	97.20	96.83	94.65	95.05	14.53	15.76	17.43	1.67
Gasoil 0.05%	92.76	95.97	81.63	-14.34	-14.9	95.42	99.49	97.65	94.90	95.05	15.54	16.57	16.10	-0.48
LSWR Cracked	73.20	78.90	70.31	-8.60	-10.9	76.17	80.21	79.94	78.87	78.60	-4.02	-0.50	4.77	5.27
HSFO 180 CST	72.42	78.68	69.93	-8.75	-11.1	75.70	79.71	79.63	78.69	78.50	-4.80	-0.72	4.39	5.11
HSFO 380 CST 4%	71.68	77.83	69.35	-8.48	-10.9	74.73	79.13	78.72	77.58	77.50	-5.54	-1.57	3.82	5.39

Copyright © 2018 Argus Media Ltd - All rights reserved

\* Waterborne

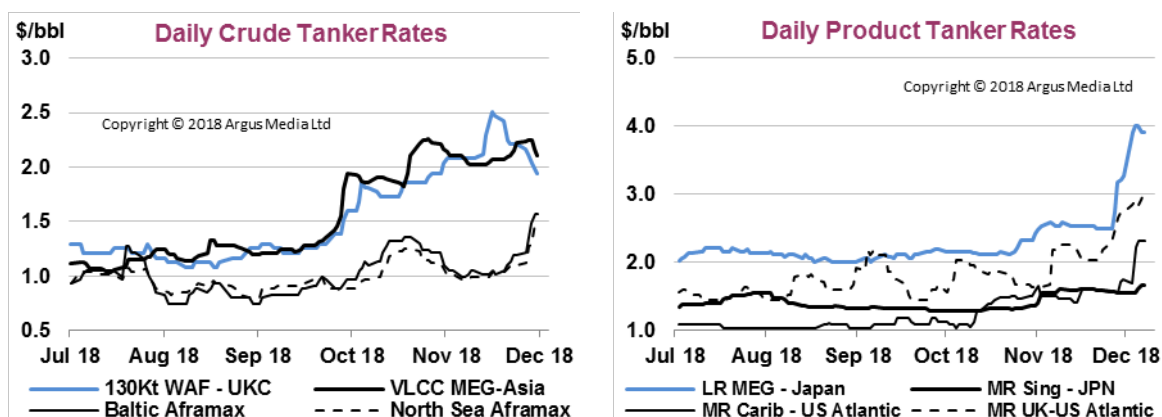


In Singapore, HSFO maintained a premium to Dubai by on average \$4.39/bbl in November. Global cracks reached ten-year highs as supplies have been diminished by Iranian sanctions, reduced Venezuelan output and refinery upgrades that see less global production of fuel oil. At the same time, demand has been seasonally strong from India, Pakistan and Korea and for bunkering.

## Freight

Higher global oil production has seen increased demand for shipping and freight rates for crude and product tankers have soared. In particular, Very Large Crude Carrier (VLCC) rates have stayed elevated since reaching a two-year high at the end of October. Rates for Suezmaxes gained \$0.45/bbl m-o-m, to the highest in three years, as weather delays in the Turkish Straits hampered movements. Furthermore,

while the Suezmax fleet has been growing overall, there has been a relatively high demolition rate that has weighed on the supply of vessels.



In product tanker markets freight rates increased m-o-m. Rates for Long Range (LR) vessels travelling from the Middle East Gulf to North Asia gained \$0.46/bbl m-o-m, hitting \$4.01/bbl in early December, a three-year high. A number of LR ships switched to transporting dirty products, which resulted in sharply reduced availability, particularly in the Middle East Gulf. Rates for Medium Range (MR) vessels travelling between Europe and the US Atlantic coast gained \$0.36/bbl m-o-m. There was strong demand to ship products to Latin America where there have been a number of refinery disruptions and closures.

**Table 1**  
**WORLD OIL SUPPLY AND DEMAND**

(million barrels per day)

	2015	2016	1Q17	2Q17	3Q17	4Q17	2017	1Q18	2Q18	3Q18	4Q18	2018	1Q19	2Q19	3Q19	4Q19	2019
<b>OECD DEMAND</b>																	
Americas	24.6	24.9	24.6	25.1	25.2	25.3	25.1	25.3	25.4	25.8	25.7	25.5	25.4	25.8	26.1	25.9	25.8
Europe	13.8	14.0	13.8	14.3	14.7	14.4	14.3	14.1	14.2	14.6	14.3	14.3	14.0	14.5	14.8	14.4	14.4
Asia Oceania	8.1	8.1	8.5	7.7	7.8	8.3	8.1	8.5	7.6	7.6	8.2	8.0	8.4	7.5	7.5	8.2	7.9
Total OECD	46.5	47.0	46.9	47.0	47.7	48.1	47.4	47.8	47.2	48.1	48.1	47.8	47.8	47.7	48.4	48.4	48.1
<b>NON-OECD DEMAND</b>																	
FSU	4.6	4.5	4.3	4.5	4.7	4.6	4.5	4.5	4.6	5.0	4.7	4.7	4.6	4.8	5.0	4.9	4.8
Europe	0.7	0.7	0.7	0.8	0.8	0.8	0.7	0.7	0.7	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
China	11.6	12.0	12.4	12.9	12.3	12.7	12.6	12.7	13.0	13.2	13.4	13.1	13.2	13.5	13.6	13.8	13.5
Other Asia	12.5	13.0	13.2	13.4	13.2	13.6	13.4	13.7	13.9	13.4	14.0	13.7	14.2	14.3	13.9	14.5	14.2
Americas	6.7	6.4	6.3	6.5	6.6	6.4	6.5	6.3	6.4	6.5	6.4	6.4	6.2	6.3	6.4	6.3	6.3
Middle East	8.5	8.5	8.2	8.7	8.9	8.2	8.5	8.1	8.5	8.7	8.3	8.4	8.1	8.6	8.9	8.2	8.4
Africa	4.2	4.3	4.4	4.3	4.2	4.3	4.3	4.3	4.3	4.2	4.4	4.3	4.5	4.4	4.3	4.4	4.4
Total Non-OECD	48.7	49.4	49.6	51.0	50.7	50.6	50.5	50.4	51.4	51.5	52.1	51.4	51.4	52.6	52.8	52.9	52.5
<b>Total Demand<sup>1</sup></b>	<b>95.3</b>	<b>96.4</b>	<b>96.5</b>	<b>98.0</b>	<b>98.3</b>	<b>98.6</b>	<b>97.9</b>	<b>98.2</b>	<b>98.5</b>	<b>99.6</b>	<b>100.2</b>	<b>99.2</b>	<b>99.2</b>	<b>100.4</b>	<b>101.2</b>	<b>101.3</b>	<b>100.6</b>
<b>OECD SUPPLY</b>																	
Americas <sup>4</sup>	20.0	19.5	20.0	19.8	20.3	21.2	20.3	21.7	22.2	23.3	23.3	22.6	23.2	23.5	24.0	24.2	23.7
Europe	3.5	3.5	3.7	3.5	3.4	3.4	3.5	3.6	3.4	3.3	3.3	3.4	3.4	3.3	3.3	3.4	3.4
Asia Oceania	0.5	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.5	0.5	0.5	0.5
Total OECD	23.9	23.4	24.0	23.7	24.0	25.0	24.2	25.7	25.9	27.0	27.1	26.4	27.1	27.3	27.7	28.2	27.6
<b>NON-OECD SUPPLY</b>																	
FSU	14.0	14.2	14.4	14.3	14.2	14.4	14.3	14.4	14.5	14.6	14.8	14.6	14.7	14.5	14.7	14.9	14.7
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	0.1	0.1	0.1	0.1
China	4.3	4.0	3.9	3.9	3.8	3.8	3.9	3.8	3.9	3.8	3.9	3.8	3.8	3.8	3.7	3.7	3.8
Other Asia <sup>2</sup>	3.6	3.6	3.5	3.4	3.4	3.4	3.5	3.4	3.3	3.3	3.3	3.3	3.3	3.2	3.2	3.2	3.2
Americas <sup>2,4</sup>	4.6	4.5	4.6	4.5	4.5	4.5	4.5	4.5	4.5	4.4	4.6	4.5	4.7	4.8	4.9	5.1	4.9
Middle East	1.3	1.3	1.3	1.3	1.3	1.2	1.2	1.2	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3
Africa <sup>2</sup>	1.5	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.5	1.5	1.4	1.5	1.5	1.4	1.4	1.4	1.4
Total Non-OECD	29.4	29.1	29.2	29.0	28.9	28.9	29.0	29.0	29.1	29.0	29.3	29.1	29.2	29.1	29.4	29.7	29.4
Processing gains <sup>3</sup>	2.2	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3
Global Biofuels	2.3	2.4	2.0	2.5	2.9	2.5	2.5	2.1	2.7	3.0	2.5	2.6	2.2	2.8	3.0	2.7	2.7
Total Non-OPEC Supply	57.8	57.1	57.5	57.5	58.1	58.8	58.0	59.1	60.0	61.3	61.2	60.4	60.8	61.5	62.5	62.8	61.9
<b>OPEC</b>																	
Crude	32.1	33.0	32.3	32.6	33.0	32.6	32.6	32.3	32.1	32.6							
NGLs	6.5	6.8	6.9	6.9	6.9	6.8	6.9	6.9	6.9	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
Total OPEC	38.6	39.8	39.2	39.5	39.9	39.5	39.5	39.3	39.1	39.6							
<b>Total Supply<sup>4</sup></b>	<b>96.4</b>	<b>96.9</b>	<b>96.7</b>	<b>97.0</b>	<b>97.9</b>	<b>98.2</b>	<b>97.5</b>	<b>98.3</b>	<b>99.1</b>	<b>100.9</b>							
<b>STOCK CHANGES AND MISCELLANEOUS</b>																	
<b>Reported OECD</b>																	
Industry	0.8	0.0	0.3	-0.1	-0.5	-1.3	-0.4	-0.5	0.0	0.5							
Government	0.0	0.0	0.0	-0.1	-0.1	-0.1	-0.1	0.1	-0.1	0.0							
Total	0.8	0.0	0.3	-0.2	-0.7	-1.4	-0.5	-0.4	-0.1	0.5							
Floating storage/Oil in transit	0.3	0.2	0.0	-0.1	0.5	1.0	0.4	-1.0	0.3	-0.3							
Miscellaneous to balance <sup>5</sup>	0.1	0.4	-0.1	-0.7	-0.3	0.0	-0.3	1.5	0.3	1.1							
<b>Total Stock Ch. &amp; Misc</b>	<b>1.2</b>	<b>0.6</b>	<b>0.2</b>	<b>-1.1</b>	<b>-0.4</b>	<b>-0.4</b>	<b>-0.4</b>	<b>0.1</b>	<b>0.5</b>	<b>1.3</b>							
<b>Memo items:</b>																	
Call on OPEC crude + Stock ch. <sup>6</sup>	30.9	32.5	32.1	33.6	33.4	33.0	33.0	32.2	31.6	31.3	32.0	31.8	31.4	31.8	31.7	31.5	31.6

<sup>1</sup> Measured as deliveries from refineries and primary stocks, comprises inland deliveries, international marine bunkers, refinery fuel, crude for direct burning, oil from non-conventional sources and other sources of supply. Includes Biofuels.

<sup>2</sup> Other Asia includes Indonesia throughout. Latin America excludes Ecuador throughout. Africa excludes Angola, Gabon and Equatorial Guinea throughout.

<sup>3</sup> Net volumetric gains and losses in the refining process and marine transportation losses.

<sup>4</sup> Comprises crude oil, condensates, NGLs, oil from non-conventional sources and other sources of supply.

<sup>5</sup> Includes changes in non-reported stocks in OECD and non-OECD areas.

<sup>6</sup> Equals the arithmetic difference between total demand minus total non-OPEC supply minus OPEC NGLs.



**Table 1a**  
**WORLD OIL SUPPLY AND DEMAND: CHANGES FROM LAST MONTH'S TABLE 1**  
(million barrels per day)

	2015	2016	1Q17	2Q17	3Q17	4Q17	2017	1Q18	2Q18	3Q18	4Q18	2018	1Q19	2Q19	3Q19	4Q19	2019
<b>OECD DEMAND</b>																	
Americas	-	-	-	-	-	-	-	-	-	-	0.2	-	0.1	0.1	0.1	0.1	0.1
Europe	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-0.1	-	-
Asia Oceania	-	-	-	-	-	-	-	-	-	-	-0.1	-	-	-0.1	-	-	-
Total OECD	-	-	-	-	-	-	-	-	-	-	0.1	-	0.1	-	-	-	-
<b>NON-OECD DEMAND</b>																	
FSU	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Europe	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
China	-	-	-	-	-	-	-	-	-	-	-	-	0.1	0.1	0.1	0.1	0.1
Other Asia	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Americas	-	-	-	-	-	-	-	-	-	-	-	-	-0.1	-0.1	-0.1	-0.1	-0.1
Middle East	-	-	-	-	-	-	-	-	-	-0.1	-	-	-	-	-0.1	-	-
Africa	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total Non-OECD	-	-	-	-	-	-	-	-	-	-0.2	-	-0.1	-	-	-0.1	-0.1	-
<b>Total Demand</b>	-	-	-	-	-	-	-	-	-	<b>-0.2</b>	<b>0.1</b>	-	<b>0.1</b>	-	<b>-0.1</b>	<b>-0.1</b>	-
<b>OECD SUPPLY</b>																	
Americas	-	-	-	-	-	-	-	-	-	0.1	0.1	0.1	-0.4	-0.2	-0.1	-	-0.1
Europe	-	-	-	-	-	-	-	-	-	-	0.1	-	-	-	-	-	-
Asia Oceania	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total OECD	-	-	-	-	-	-	-	-	-	0.1	0.1	0.1	-0.4	-0.2	-0.1	0.1	-0.1
<b>NON-OECD SUPPLY</b>																	
FSU	-	-	-	-	-	-	-	-	-	-	-0.1	-	-0.3	-0.4	-0.2	-0.2	-0.3
Europe	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
China	-	-	-	-	-	-	-	-	-	-	0.1	-	-	0.1	-	-	-
Other Asia	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Americas	-	-	-	-	-	-	-	-	-	-	0.1	-	-	-	-	-	-
Middle East	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Africa	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total Non-OECD	-	-	-	-	-	-	-	-	-	-	0.1	-	-0.2	-0.4	-0.1	-0.1	-0.2
Processing gains	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Global Biofuels	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total Non-OPEC Supply	-	-	-	-	-	-	-	-	-	0.1	0.2	0.1	-0.6	-0.5	-0.2	-	-0.3
<b>OPEC</b>																	
Crude	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
NGLs	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total OPEC	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total Supply</b>	-	-	-	-	-	-	-	-	-	<b>0.2</b>							
<b>STOCK CHANGES AND MISCELLANEOUS</b>																	
<b>REPORTED OECD</b>																	
Industry	-	-	-	-	-	-	-	-	-	-0.1							
Government	-	-	-	-	-	-	-	-	-	-							
Total	-	-	-	-	-	-	-	-	-	-0.1							
Floating storage/Oil in transit	-	-	-	-	-	-	-	-	-	-							
Miscellaneous to balance	-	-	-	-	-	-	-	-	-	0.5							
<b>Total Stock Ch. &amp; Misc</b>	-	-	-	-	-	-	-	-	-	<b>0.4</b>							
<b>Memo items:</b>																	
Call on OPEC crude + Stock ch.	-	-	-	-	-	-	-	-	-	-0.4	-0.1	-0.1	0.6	0.6	0.1	-	0.3

When submitting their monthly oil statistics, OECD Member countries periodically update data for prior periods. Similar updates to non-OECD data can occur.

Table 2  
SUMMARY OF GLOBAL OIL DEMAND

	2016	1Q17	2Q17	3Q17	4Q17	2017	1Q18	2Q18	3Q18	4Q18	2018	1Q19	2Q19	3Q19	4Q19	2019
<b>Demand (mb/d)</b>																
Americas	24.88	24.61	25.12	25.15	25.34	25.06	25.26	25.37	25.82	25.68	25.53	25.37	25.77	26.07	25.86	25.77
Europe	13.99	13.82	14.25	14.70	14.40	14.30	14.05	14.19	14.63	14.30	14.29	14.02	14.47	14.80	14.36	14.42
Asia Oceania	8.11	8.48	7.65	7.80	8.33	8.06	8.51	7.60	7.62	8.15	7.97	8.40	7.48	7.54	8.18	7.90
<b>Total OECD</b>	<b>46.97</b>	<b>46.91</b>	<b>47.02</b>	<b>47.66</b>	<b>48.06</b>	<b>47.42</b>	<b>47.82</b>	<b>47.16</b>	<b>48.07</b>	<b>48.13</b>	<b>47.80</b>	<b>47.79</b>	<b>47.72</b>	<b>48.42</b>	<b>48.40</b>	<b>48.08</b>
Asia	24.97	25.62	26.32	25.56	26.26	25.94	26.41	26.91	26.54	27.42	26.82	27.32	27.82	27.49	28.26	27.73
Middle East	8.49	8.24	8.67	8.88	8.23	8.51	8.11	8.45	8.66	8.33	8.39	8.10	8.57	8.86	8.25	8.45
Americas	6.44	6.34	6.46	6.56	6.45	6.45	6.33	6.36	6.47	6.44	6.40	6.25	6.32	6.37	6.34	6.32
FSU	4.51	4.30	4.51	4.73	4.60	4.54	4.48	4.63	4.96	4.73	4.70	4.57	4.77	5.05	4.86	4.82
Africa	4.25	4.36	4.29	4.19	4.26	4.28	4.33	4.28	4.15	4.36	4.28	4.45	4.40	4.26	4.43	4.39
Europe	0.72	0.72	0.75	0.76	0.76	0.75	0.73	0.74	0.77	0.78	0.76	0.75	0.77	0.79	0.79	0.78
<b>Total Non-OECD</b>	<b>49.39</b>	<b>49.57</b>	<b>51.01</b>	<b>50.69</b>	<b>50.55</b>	<b>50.46</b>	<b>50.39</b>	<b>51.38</b>	<b>51.55</b>	<b>52.06</b>	<b>51.36</b>	<b>51.44</b>	<b>52.65</b>	<b>52.80</b>	<b>52.92</b>	<b>52.47</b>
<b>World</b>	<b>96.36</b>	<b>96.49</b>	<b>98.03</b>	<b>98.34</b>	<b>98.62</b>	<b>97.88</b>	<b>98.22</b>	<b>98.54</b>	<b>99.61</b>	<b>100.19</b>	<b>99.15</b>	<b>99.23</b>	<b>100.37</b>	<b>101.22</b>	<b>101.33</b>	<b>100.55</b>
of which: US50	19.69	19.54	20.07	20.01	20.21	19.96	20.24	20.33	20.63	20.56	20.44	20.30	20.70	20.84	20.70	20.64
Europe 5*	8.15	8.16	8.28	8.44	8.24	8.28	8.18	8.20	8.29	8.18	8.21	8.14	8.28	8.40	8.20	8.25
China	11.99	12.44	12.88	12.33	12.65	12.58	12.72	13.02	13.18	13.39	13.08	13.17	13.50	13.63	13.79	13.53
Japan	4.01	4.30	3.58	3.63	4.06	3.89	4.27	3.43	3.53	3.98	3.80	4.20	3.36	3.47	3.95	3.74
India	4.44	4.46	4.67	4.42	4.72	4.57	4.82	4.91	4.56	4.97	4.81	5.05	5.15	4.79	5.20	5.05
Russia	3.33	3.14	3.31	3.50	3.34	3.32	3.29	3.39	3.69	3.44	3.45	3.36	3.50	3.75	3.51	3.53
Brazil	2.98	2.92	2.96	3.08	3.04	3.00	2.95	2.91	3.07	3.10	3.01	2.92	2.97	3.08	3.07	3.01
Saudi Arabia	3.30	2.93	3.41	3.62	3.13	3.27	2.93	3.18	3.32	3.19	3.16	2.86	3.32	3.51	3.12	3.20
Canada	2.47	2.37	2.36	2.52	2.52	2.45	2.32	2.34	2.54	2.47	2.42	2.36	2.35	2.54	2.49	2.44
Korea	2.61	2.62	2.49	2.57	2.65	2.58	2.63	2.55	2.48	2.53	2.55	2.59	2.50	2.47	2.59	2.54
Mexico	2.05	2.02	2.03	1.95	1.93	1.98	1.99	2.02	1.97	1.96	1.99	1.99	2.04	1.99	1.98	2.00
Iran	1.96	2.12	2.03	2.00	2.00	2.04	2.01	2.00	1.99	1.99	2.00	2.07	1.98	1.96	1.94	1.98
<b>Total</b>	<b>66.98</b>	<b>67.03</b>	<b>68.08</b>	<b>68.09</b>	<b>68.51</b>	<b>67.93</b>	<b>68.35</b>	<b>68.29</b>	<b>69.25</b>	<b>69.78</b>	<b>68.92</b>	<b>69.01</b>	<b>69.66</b>	<b>70.44</b>	<b>70.52</b>	<b>69.91</b>
% of World	69.5%	69.5%	69.4%	69.2%	69.5%	69.4%	69.6%	69.3%	69.5%	69.7%	69.5%	69.5%	69.4%	69.6%	69.6%	69.5%
<b>Annual Change (% per annum)</b>																
Americas	1.1	-0.5	2.1	-0.1	1.4	0.7	2.6	1.0	2.7	1.3	1.9	0.4	1.6	0.9	0.7	0.9
Europe	1.2	2.0	2.7	2.2	1.8	2.2	1.7	-0.5	-0.5	-0.7	0.0	-0.3	2.0	1.2	0.4	0.8
Asia Oceania	0.0	-1.4	-0.3	0.0	-0.2	-0.5	0.4	-0.7	-2.4	-2.1	-1.2	-1.3	-1.5	-1.0	0.4	-0.8
<b>Total OECD</b>	<b>1.0</b>	<b>0.1</b>	<b>1.9</b>	<b>0.6</b>	<b>1.3</b>	<b>1.0</b>	<b>1.9</b>	<b>0.3</b>	<b>0.9</b>	<b>0.1</b>	<b>0.8</b>	<b>-0.1</b>	<b>1.2</b>	<b>0.7</b>	<b>0.6</b>	<b>0.6</b>
Asia	4.0	3.2	3.8	4.5	4.1	3.9	3.1	2.3	3.8	4.4	3.4	3.5	3.4	3.6	3.1	3.4
Middle East	-0.4	1.7	0.5	-0.3	-1.1	0.2	-1.6	-2.6	-2.5	1.3	-1.4	-0.1	1.4	2.3	-1.0	0.7
Americas	-4.1	-0.2	0.0	0.5	0.7	0.2	-0.1	-1.6	-1.5	-0.1	-0.8	-1.3	-0.6	-1.5	-1.6	-1.3
FSU	-1.3	-1.1	3.6	0.9	-1.1	0.5	4.3	2.7	5.0	2.8	3.7	2.0	3.0	1.7	2.9	2.4
Africa	1.1	1.7	-0.1	1.0	-0.5	0.5	-0.6	-0.2	-0.9	2.2	0.1	2.8	2.7	2.5	1.7	2.4
Europe	4.8	1.7	2.2	4.2	4.3	3.1	2.5	-0.9	1.4	3.4	1.5	2.2	3.1	2.3	1.1	2.3
<b>Total Non-OECD</b>	<b>1.4</b>	<b>2.0</b>	<b>2.4</b>	<b>2.4</b>	<b>1.9</b>	<b>2.2</b>	<b>1.7</b>	<b>0.7</b>	<b>1.7</b>	<b>3.0</b>	<b>1.8</b>	<b>2.1</b>	<b>2.5</b>	<b>2.4</b>	<b>1.7</b>	<b>2.2</b>
<b>World</b>	<b>1.2</b>	<b>1.0</b>	<b>2.1</b>	<b>1.5</b>	<b>1.6</b>	<b>1.6</b>	<b>1.8</b>	<b>0.5</b>	<b>1.3</b>	<b>1.6</b>	<b>1.3</b>	<b>1.0</b>	<b>1.9</b>	<b>1.6</b>	<b>1.1</b>	<b>1.4</b>
<b>Annual Change (mb/d)</b>																
Americas	0.28	-0.11	0.51	-0.03	0.36	0.18	0.65	0.25	0.67	0.34	0.48	0.11	0.40	0.24	0.18	0.23
Europe	0.16	0.27	0.37	0.31	0.26	0.31	0.23	-0.07	-0.08	-0.10	0.00	-0.04	0.28	0.18	0.06	0.12
Asia Oceania	0.00	-0.12	-0.02	0.00	-0.02	-0.04	0.03	-0.05	-0.18	-0.18	-0.10	-0.11	-0.12	-0.07	0.03	-0.07
<b>Total OECD</b>	<b>0.45</b>	<b>0.04</b>	<b>0.86</b>	<b>0.28</b>	<b>0.60</b>	<b>0.45</b>	<b>0.91</b>	<b>0.13</b>	<b>0.41</b>	<b>0.07</b>	<b>0.38</b>	<b>-0.04</b>	<b>0.56</b>	<b>0.35</b>	<b>0.27</b>	<b>0.29</b>
Asia	0.95	0.79	0.97	1.09	1.04	0.97	0.79	0.59	0.97	1.16	0.88	0.92	0.91	0.95	0.84	0.90
Middle East	-0.04	0.14	0.04	-0.03	-0.09	0.01	-0.13	-0.22	-0.22	0.10	-0.12	-0.01	0.12	0.20	-0.09	0.06
Americas	-0.28	-0.01	0.00	0.03	0.04	0.02	-0.01	-0.10	-0.10	-0.01	-0.05	-0.08	-0.04	-0.10	-0.11	-0.08
FSU	-0.06	-0.05	0.16	0.04	-0.05	0.02	0.18	0.12	0.23	0.13	0.17	0.09	0.14	0.08	0.14	0.11
Africa	0.05	0.07	-0.01	0.04	-0.02	0.02	-0.03	-0.01	-0.04	0.09	0.01	0.12	0.12	0.10	0.07	0.10
Europe	0.03	0.01	0.02	0.03	0.03	0.02	0.02	-0.01	0.01	0.03	0.01	0.02	0.02	0.02	0.01	0.02
<b>Total Non-OECD</b>	<b>0.66</b>	<b>0.95</b>	<b>1.17</b>	<b>1.21</b>	<b>0.95</b>	<b>1.07</b>	<b>0.82</b>	<b>0.37</b>	<b>0.86</b>	<b>1.50</b>	<b>0.89</b>	<b>1.05</b>	<b>1.27</b>	<b>1.26</b>	<b>0.87</b>	<b>1.11</b>
<b>World</b>	<b>1.11</b>	<b>0.99</b>	<b>2.03</b>	<b>1.49</b>	<b>1.55</b>	<b>1.52</b>	<b>1.73</b>	<b>0.50</b>	<b>1.27</b>	<b>1.57</b>	<b>1.27</b>	<b>1.01</b>	<b>1.83</b>	<b>1.61</b>	<b>1.14</b>	<b>1.40</b>
<b>Revisions to Oil Demand from Last Month's Report (mb/d)</b>																
Americas	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-0.02	0.16	0.03	0.07	0.09	0.05	0.07	0.07
Europe	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	-0.01	-0.01	0.00	0.02	0.00	-0.05	-0.04	-0.02
Asia Oceania	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-0.01	-0.05	-0.02	-0.02	-0.06	-0.02	-0.01	-0.03
<b>Total OECD</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.03</b>	<b>-0.05</b>	<b>0.09</b>	<b>0.02</b>	<b>0.07</b>	<b>0.03</b>	<b>-0.01</b>	<b>0.02</b>	<b>0.02</b>
Asia	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-0.05	-0.02	-0.02	0.07	0.08	0.05	0.05	0.06
Middle East	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-0.13	-0.03	-0.04	-0.02	-0.01	-0.05	-0.05	-0.03
Americas	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-0.02	0.00	-0.05	-0.09	-0.12	-0.13	-0.10
FSU	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.01	-0.01	-0.01	0.00	0.02	0.00
Africa	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-0.02	0.02	0.00	0.03	0.02	0.00	0.03	0.02
Europe	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>Total Non-OECD</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>-0.18</b>	<b>-0.02</b>	<b>-0.05</b>	<b>0.01</b>	<b>0.01</b>	<b>-0.13</b>	<b>-0.08</b>	<b>-0.05</b>
<b>World</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.03</b>	<b>-0.23</b>	<b>0.07</b>	<b>-0.03</b>	<b>0.08</b>	<b>0.03</b>	<b>-0.14</b>	<b>-0.06</b>	<b>-0.02</b>
<b>Revisions to Oil Demand Growth from Last Month's Report (mb/d)</b>																
World	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	-0.23	0.07	-0.03	0.08	0.00	0.09	-0.13	0.01

\* France, Germany, Italy, Spain and UK

**Table 2a**  
**OECD REGIONAL OIL DEMAND<sup>1</sup>**  
(million barrels per day)

										Latest month vs.	
	2016	2017	4Q17	1Q18	2Q18	3Q18	Jul 18	Aug 18	Sep 18 <sup>2</sup>	Aug 18	Sep 17
<b>Americas</b>											
LPG and ethane	3.32	3.33	3.55	3.99	3.29	3.47	3.46	3.49	3.45	-0.04	0.45
Naphtha	0.34	0.34	0.33	0.28	0.27	0.31	0.31	0.31	0.32	0.01	0.01
Motor gasoline	11.09	11.11	11.04	10.73	11.28	11.28	11.39	11.53	10.89	-0.65	-0.27
Jet and kerosene	1.90	1.98	2.03	1.95	2.04	2.12	2.12	2.21	2.03	-0.18	0.08
Gasoil/diesel oil	5.13	5.14	5.28	5.39	5.38	5.31	5.20	5.42	5.30	-0.12	0.18
Residual fuel oil	0.63	0.68	0.67	0.63	0.68	0.71	0.73	0.72	0.70	-0.01	0.06
Other products	2.47	2.47	2.44	2.31	2.42	2.63	2.61	2.84	2.42	-0.42	-0.12
<b>Total</b>	<b>24.87</b>	<b>25.06</b>	<b>25.34</b>	<b>25.26</b>	<b>25.37</b>	<b>25.82</b>	<b>25.82</b>	<b>26.52</b>	<b>25.11</b>	<b>-1.41</b>	<b>0.40</b>
<b>Europe</b>											
LPG and ethane	1.16	1.12	1.11	1.24	1.11	1.14	1.14	1.21	1.07	-0.13	0.01
Naphtha	1.10	1.18	1.22	1.16	1.03	1.03	1.03	1.03	1.02	-0.01	-0.15
Motor gasoline	1.88	1.89	1.85	1.82	2.00	2.00	2.03	2.06	1.91	-0.14	-0.03
Jet and kerosene	1.37	1.46	1.41	1.36	1.54	1.69	1.69	1.71	1.68	-0.03	0.02
Gasoil/diesel oil	6.31	6.48	6.64	6.45	6.33	6.46	6.48	6.42	6.48	0.06	-0.29
Residual fuel oil	0.88	0.89	0.93	0.89	0.88	0.90	0.94	0.89	0.85	-0.03	-0.05
Other products	1.29	1.28	1.25	1.14	1.30	1.41	1.48	1.36	1.40	0.03	-0.05
<b>Total</b>	<b>13.99</b>	<b>14.30</b>	<b>14.40</b>	<b>14.05</b>	<b>14.19</b>	<b>14.63</b>	<b>14.79</b>	<b>14.67</b>	<b>14.41</b>	<b>-0.25</b>	<b>-0.55</b>
<b>Asia Oceania</b>											
LPG and ethane	0.78	0.75	0.73	0.82	0.72	0.65	0.67	0.65	0.63	-0.03	-0.05
Naphtha	1.98	2.04	2.13	2.04	1.92	1.97	1.93	1.96	2.00	0.04	-0.01
Motor gasoline	1.55	1.54	1.56	1.51	1.51	1.59	1.59	1.65	1.53	-0.13	-0.04
Jet and kerosene	0.90	0.91	1.05	1.18	0.74	0.72	0.68	0.71	0.76	0.05	0.01
Gasoil/diesel oil	1.82	1.89	1.95	1.95	1.90	1.88	1.88	1.87	1.88	0.00	-0.05
Residual fuel oil	0.65	0.58	0.58	0.66	0.49	0.52	0.53	0.56	0.48	-0.08	-0.04
Other products	0.42	0.35	0.32	0.35	0.32	0.29	0.34	0.30	0.24	-0.06	-0.14
<b>Total</b>	<b>8.11</b>	<b>8.06</b>	<b>8.33</b>	<b>8.51</b>	<b>7.60</b>	<b>7.62</b>	<b>7.63</b>	<b>7.71</b>	<b>7.51</b>	<b>-0.20</b>	<b>-0.32</b>
<b>OECD</b>											
LPG and ethane	5.25	5.20	5.39	6.05	5.12	5.26	5.27	5.35	5.15	-0.20	0.41
Naphtha	3.43	3.56	3.67	3.48	3.22	3.30	3.27	3.30	3.34	0.04	-0.15
Motor gasoline	14.53	14.55	14.46	14.05	14.79	14.87	15.02	15.24	14.33	-0.92	-0.34
Jet and kerosene	4.17	4.35	4.48	4.49	4.33	4.54	4.50	4.63	4.47	-0.16	0.11
Gasoil/diesel oil	13.26	13.51	13.87	13.78	13.61	13.64	13.56	13.71	13.66	-0.06	-0.15
Residual fuel oil	2.16	2.15	2.18	2.18	2.05	2.13	2.19	2.16	2.03	-0.12	-0.03
Other products	4.18	4.10	4.01	3.79	4.04	4.33	4.43	4.50	4.05	-0.45	-0.32
<b>Total</b>	<b>46.97</b>	<b>47.42</b>	<b>48.06</b>	<b>47.82</b>	<b>47.16</b>	<b>48.07</b>	<b>48.24</b>	<b>48.90</b>	<b>47.03</b>	<b>-1.86</b>	<b>-0.47</b>

<sup>1</sup> Demand, measured as deliveries from refineries and primary stocks, comprises inland deliveries, international bunkers and refinery fuel. It includes crude for direct burning, oil from non-conventional sources and other sources of supply. Jet/kerosene comprises jet kerosene and non-aviation kerosene. Gasoil comprises diesel, light heating oil and other gasoils.

North America comprises US 50 states, US territories, Mexico and Canada.

<sup>2</sup> Latest official OECD submissions (MOS).

**Table 2b**  
**OIL DEMAND IN SELECTED OECD COUNTRIES<sup>1</sup>**  
(million barrels per day)

	2016	2017	4Q17	1Q18	2Q18	3Q18	Jul 18	Aug 18	Sep 18 <sup>2</sup>	Latest month vs.	
										Aug 18	Sep 17
<b>United States<sup>3</sup></b>											
LPG and ethane	2.47	2.54	2.73	3.12	2.58	2.68	2.67	2.72	2.67	-0.05	0.42
Naphtha	0.22	0.23	0.22	0.21	0.20	0.24	0.23	0.25	0.25	0.01	0.07
Motor gasoline	9.32	9.33	9.24	9.01	9.51	9.51	9.64	9.75	9.12	-0.63	-0.26
Jet and kerosene	1.62	1.69	1.73	1.65	1.73	1.78	1.77	1.86	1.70	-0.16	0.06
Gasoil/diesel oil	3.88	3.93	4.05	4.18	4.13	4.05	3.96	4.17	4.01	-0.17	0.09
Residual fuel oil	0.33	0.34	0.34	0.28	0.32	0.34	0.34	0.31	0.36	0.05	0.06
Other products	1.86	1.90	1.89	1.78	1.86	2.04	2.02	2.25	1.85	-0.40	-0.12
<b>Total</b>	<b>19.69</b>	<b>19.96</b>	<b>20.21</b>	<b>20.24</b>	<b>20.33</b>	<b>20.63</b>	<b>20.62</b>	<b>21.30</b>	<b>19.95</b>	<b>-1.35</b>	<b>0.31</b>
<b>Japan</b>											
LPG and ethane	0.42	0.39	0.39	0.46	0.35	0.31	0.32	0.31	0.30	-0.01	-0.03
Naphtha	0.75	0.77	0.79	0.75	0.66	0.70	0.67	0.71	0.71	-0.01	-0.04
Motor gasoline	0.90	0.88	0.89	0.84	0.85	0.92	0.93	0.97	0.87	-0.11	-0.02
Jet and kerosene	0.51	0.51	0.62	0.73	0.37	0.33	0.31	0.33	0.36	0.03	-0.01
Diesel	0.44	0.43	0.44	0.43	0.44	0.45	0.45	0.44	0.47	0.03	0.03
Other gasoil	0.35	0.35	0.37	0.40	0.29	0.28	0.28	0.28	0.29	0.02	-0.03
Residual fuel oil	0.33	0.28	0.28	0.34	0.23	0.27	0.28	0.28	0.24	-0.04	-0.02
Other products	0.32	0.28	0.28	0.31	0.24	0.27	0.27	0.27	0.26	-0.01	-0.01
<b>Total</b>	<b>4.01</b>	<b>3.89</b>	<b>4.06</b>	<b>4.27</b>	<b>3.43</b>	<b>3.53</b>	<b>3.50</b>	<b>3.60</b>	<b>3.50</b>	<b>-0.10</b>	<b>-0.13</b>
<b>Germany</b>											
LPG and ethane	0.10	0.13	0.12	0.11	0.13	0.11	0.12	0.11	0.10	0.00	-0.02
Naphtha	0.37	0.38	0.38	0.32	0.31	0.27	0.28	0.27	0.24	-0.03	-0.10
Motor gasoline	0.42	0.43	0.42	0.45	0.45	0.45	0.45	0.46	0.43	-0.03	-0.01
Jet and kerosene	0.20	0.22	0.21	0.19	0.23	0.24	0.25	0.23	0.24	0.01	0.01
Diesel	0.76	0.76	0.76	0.70	0.74	0.76	0.76	0.77	0.76	-0.01	-0.03
Other gasoil	0.36	0.37	0.36	0.41	0.27	0.29	0.25	0.29	0.34	0.05	-0.04
Residual fuel oil	0.09	0.08	0.10	0.09	0.08	0.07	0.07	0.07	0.05	-0.02	-0.02
Other products	0.09	0.09	0.09	0.07	0.09	0.12	0.13	0.12	0.12	0.00	0.01
<b>Total</b>	<b>2.38</b>	<b>2.46</b>	<b>2.43</b>	<b>2.34</b>	<b>2.29</b>	<b>2.30</b>	<b>2.30</b>	<b>2.33</b>	<b>2.29</b>	<b>-0.04</b>	<b>-0.19</b>
<b>Italy</b>											
LPG and ethane	0.10	0.10	0.11	0.12	0.09	0.09	0.09	0.09	0.08	-0.01	0.00
Naphtha	0.08	0.09	0.09	0.09	0.06	0.07	0.06	0.07	0.09	0.02	-0.01
Motor gasoline	0.17	0.16	0.15	0.15	0.17	0.17	0.18	0.18	0.15	-0.02	0.00
Jet and kerosene	0.09	0.11	0.09	0.09	0.11	0.13	0.14	0.13	0.13	0.00	-0.01
Diesel	0.47	0.47	0.48	0.50	0.50	0.49	0.52	0.48	0.48	0.00	0.02
Other gasoil	0.08	0.08	0.09	0.07	0.08	0.09	0.09	0.08	0.09	0.01	0.00
Residual fuel oil	0.08	0.08	0.07	0.08	0.08	0.07	0.08	0.07	0.07	0.00	-0.02
Other products	0.16	0.15	0.16	0.15	0.17	0.18	0.19	0.16	0.18	0.02	0.02
<b>Total</b>	<b>1.24</b>	<b>1.24</b>	<b>1.25</b>	<b>1.25</b>	<b>1.27</b>	<b>1.29</b>	<b>1.34</b>	<b>1.26</b>	<b>1.28</b>	<b>0.02</b>	<b>0.00</b>
<b>France</b>											
LPG and ethane	0.12	0.11	0.11	0.14	0.10	0.09	0.10	0.10	0.09	-0.01	-0.01
Naphtha	0.11	0.11	0.08	0.12	0.14	0.13	0.15	0.15	0.11	-0.03	0.02
Motor gasoline	0.17	0.18	0.18	0.17	0.20	0.20	0.21	0.21	0.19	-0.03	-0.01
Jet and kerosene	0.15	0.16	0.15	0.15	0.17	0.19	0.19	0.19	0.19	0.00	0.01
Diesel	0.70	0.72	0.72	0.70	0.71	0.70	0.73	0.68	0.68	0.00	-0.10
Other gasoil	0.25	0.25	0.26	0.27	0.19	0.23	0.21	0.22	0.26	0.04	-0.04
Residual fuel oil	0.04	0.05	0.05	0.06	0.05	0.05	0.05	0.05	0.05	0.00	0.00
Other products	0.12	0.12	0.11	0.10	0.13	0.14	0.15	0.13	0.14	0.01	-0.01
<b>Total</b>	<b>1.65</b>	<b>1.71</b>	<b>1.66</b>	<b>1.71</b>	<b>1.69</b>	<b>1.74</b>	<b>1.79</b>	<b>1.71</b>	<b>1.70</b>	<b>-0.01</b>	<b>-0.14</b>
<b>United Kingdom</b>											
LPG and ethane	0.15	0.14	0.13	0.14	0.14	0.12	0.12	0.12	0.13	0.01	0.00
Naphtha	0.03	0.03	0.03	0.03	0.02	0.03	0.02	0.03	0.03	0.00	0.00
Motor gasoline	0.29	0.29	0.28	0.27	0.29	0.28	0.28	0.28	0.29	0.01	0.00
Jet and kerosene	0.32	0.32	0.33	0.34	0.33	0.34	0.32	0.35	0.34	-0.01	0.00
Diesel	0.52	0.52	0.54	0.52	0.53	0.54	0.53	0.53	0.56	0.04	0.03
Other gasoil	0.13	0.14	0.14	0.13	0.15	0.16	0.14	0.17	0.17	0.00	0.01
Residual fuel oil	0.03	0.03	0.03	0.03	0.02	0.03	0.03	0.03	0.03	0.00	0.00
Other products	0.12	0.12	0.12	0.11	0.12	0.13	0.12	0.14	0.13	-0.01	0.00
<b>Total</b>	<b>1.58</b>	<b>1.58</b>	<b>1.60</b>	<b>1.57</b>	<b>1.62</b>	<b>1.62</b>	<b>1.55</b>	<b>1.63</b>	<b>1.68</b>	<b>0.05</b>	<b>0.03</b>
<b>Canada</b>											
LPG and ethane	0.41	0.39	0.43	0.42	0.30	0.37	0.37	0.35	0.38	0.02	0.03
Naphtha	0.10	0.10	0.10	0.06	0.05	0.05	0.06	0.05	0.05	0.00	-0.05
Motor gasoline	0.84	0.85	0.84	0.78	0.83	0.87	0.87	0.87	0.86	-0.01	0.02
Jet and kerosene	0.14	0.15	0.15	0.14	0.16	0.19	0.19	0.20	0.19	-0.01	0.01
Diesel	0.30	0.29	0.29	0.26	0.27	0.26	0.25	0.26	0.26	0.01	-0.03
Other gasoil	0.28	0.27	0.30	0.28	0.29	0.34	0.33	0.35	0.35	0.00	0.06
Residual fuel oil	0.05	0.06	0.05	0.06	0.09	0.07	0.08	0.07	0.06	-0.01	0.00
Other products	0.36	0.35	0.36	0.32	0.36	0.38	0.40	0.38	0.37	-0.01	-0.01
<b>Total</b>	<b>2.47</b>	<b>2.45</b>	<b>2.52</b>	<b>2.32</b>	<b>2.34</b>	<b>2.54</b>	<b>2.55</b>	<b>2.54</b>	<b>2.52</b>	<b>-0.02</b>	<b>0.02</b>

<sup>1</sup> Demand, measured as deliveries from refineries and primary stocks, comprises inland deliveries, international bunkers and refinery fuel. It includes crude for direct burning, oil from non-conventional sources and other sources of supply. Jet/kerosene comprises jet kerosene and non-aviation kerosene. Gasoil comprises diesel, light heating oil and other gasoils.

<sup>2</sup> Latest official OECD submissions (MOS).

<sup>3</sup> US figures exclude US territories.

**Table 3**  
**WORLD OIL PRODUCTION**  
(million barrels per day)

	2017	2018	2019	2Q18	3Q18	4Q18	1Q19	2Q19	Sep 18	Oct 18	Nov 18
<b>OPEC</b>											
Crude Oil											
Saudi Arabia	9.96			10.14	10.43				10.52	10.65	11.06
Iran	3.81			3.84	3.62				3.44	3.32	3.01
Iraq	4.47			4.48	4.65				4.67	4.65	4.60
UAE	2.93			2.88	3.00				3.05	3.22	3.33
Kuwait	2.71			2.71	2.79				2.78	2.76	2.78
Neutral Zone	0.00			0.00	0.00				0.00	0.00	0.00
Qatar	0.61			0.61	0.61				0.59	0.61	0.61
Angola	1.64			1.49	1.48				1.50	1.48	1.45
Nigeria	1.53			1.51	1.62				1.66	1.65	1.67
Libya	0.83			0.89	0.90				1.06	1.12	1.07
Algeria	1.05			1.03	1.06				1.07	1.07	1.07
Congo	0.26			0.33	0.33				0.34	0.33	0.33
Gabon	0.20			0.19	0.19				0.19	0.18	0.16
Equatorial Guinea	0.13			0.12	0.12				0.12	0.11	0.12
Ecuador	0.53			0.53	0.53				0.53	0.52	0.52
Venezuela	1.97			1.39	1.29				1.27	1.26	1.25
Total Crude Oil	32.62			32.12	32.61				32.79	32.93	33.03
Total NGLs <sup>1</sup>	6.88	6.96	7.02	6.93	6.96	6.98	7.02	7.02	6.96	6.98	6.98
<b>Total OPEC<sup>2</sup></b>	<b>39.49</b>			<b>39.06</b>	<b>39.58</b>				<b>39.75</b>	<b>39.91</b>	<b>40.01</b>
<b>NON-OPEC<sup>2,3</sup></b>											
<b>OECD</b>											
<b>Americas</b>	20.32	22.63	23.74	22.16	23.30	23.29	23.21	23.52	23.41	23.46	23.19
United States	13.27	15.41	16.73	15.06	15.98	16.18	16.25	16.68	16.28	16.23	16.18
Mexico	2.23	2.09	1.94	2.12	2.07	2.00	1.95	1.95	2.07	1.99	2.00
Canada	4.82	5.13	5.06	4.97	5.24	5.11	5.01	4.88	5.06	5.24	5.01
Chile	0.01	0.01	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>Europe</b>	3.49	3.38	3.35	3.36	3.26	3.35	3.42	3.30	3.04	3.43	3.22
UK	1.01	1.02	1.07	1.04	0.96	1.01	1.07	1.06	0.91	1.03	0.98
Norway	1.97	1.84	1.75	1.79	1.79	1.81	1.82	1.71	1.60	1.87	1.71
Others	0.51	0.52	0.53	0.53	0.51	0.53	0.53	0.53	0.53	0.52	0.53
<b>Asia Oceania</b>	0.39	0.41	0.48	0.39	0.42	0.43	0.45	0.47	0.44	0.42	0.43
Australia	0.31	0.34	0.41	0.31	0.35	0.36	0.38	0.40	0.36	0.35	0.36
Others	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07
<b>Total OECD</b>	<b>24.20</b>	<b>26.42</b>	<b>27.57</b>	<b>25.91</b>	<b>26.98</b>	<b>27.06</b>	<b>27.08</b>	<b>27.29</b>	<b>26.88</b>	<b>27.31</b>	<b>26.84</b>
<b>NON-OECD</b>											
<b>Former USSR</b>	14.34	14.59	14.70	14.47	14.65	14.80	14.68	14.53	14.80	14.74	14.84
Russia	11.36	11.54	11.70	11.38	11.65	11.78	11.65	11.58	11.75	11.80	11.75
Others	2.98	3.05	3.01	3.09	3.00	3.02	3.03	2.95	3.05	2.94	3.09
<b>Asia<sup>2</sup></b>	7.34	7.17	6.98	7.20	7.10	7.14	7.05	7.00	7.02	7.15	7.14
China	3.87	3.84	3.76	3.86	3.81	3.85	3.79	3.79	3.77	3.87	3.85
Malaysia	0.72	0.72	0.71	0.72	0.69	0.72	0.72	0.69	0.67	0.70	0.71
India	0.86	0.84	0.81	0.85	0.83	0.82	0.82	0.81	0.83	0.83	0.82
Indonesia	0.84	0.80	0.77	0.81	0.79	0.78	0.78	0.77	0.79	0.78	0.79
Others	1.05	0.98	0.93	0.96	0.97	0.96	0.95	0.93	0.95	0.96	0.96
<b>Europe</b>	0.13	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12
<b>Americas<sup>2</sup></b>	4.54	4.51	4.86	4.53	4.42	4.58	4.67	4.78	4.38	4.55	4.58
Brazil	2.74	2.71	3.06	2.72	2.63	2.76	2.86	2.99	2.58	2.72	2.77
Argentina	0.57	0.58	0.60	0.58	0.58	0.59	0.59	0.60	0.59	0.59	0.59
Colombia	0.86	0.87	0.85	0.87	0.87	0.88	0.87	0.86	0.88	0.89	0.87
Others	0.37	0.35	0.34	0.37	0.33	0.35	0.35	0.34	0.33	0.35	0.35
<b>Middle East<sup>2,4</sup></b>	1.25	1.26	1.27	1.26	1.27	1.28	1.27	1.27	1.28	1.29	1.29
Oman	0.98	0.99	0.99	0.98	0.99	1.00	0.98	0.98	1.00	1.00	1.00
Syria	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02
Yemen	0.03	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04
Others	0.21	0.21	0.21	0.22	0.22	0.21	0.21	0.21	0.21	0.21	0.21
<b>Africa</b>	1.41	1.45	1.44	1.48	1.46	1.42	1.45	1.44	1.46	1.38	1.42
Egypt	0.64	0.64	0.61	0.65	0.64	0.63	0.62	0.61	0.64	0.63	0.63
Others	0.77	0.81	0.83	0.83	0.82	0.79	0.83	0.83	0.82	0.75	0.79
<b>Total Non-OECD</b>	<b>28.99</b>	<b>29.09</b>	<b>29.36</b>	<b>29.07</b>	<b>29.02</b>	<b>29.33</b>	<b>29.24</b>	<b>29.14</b>	<b>29.06</b>	<b>29.22</b>	<b>29.39</b>
Processing gains <sup>5</sup>	2.29	2.32	2.35	2.32	2.32	2.32	2.35	2.35	2.32	2.32	2.32
Global Biofuels	2.47	2.57	2.66	2.72	3.00	2.46	2.19	2.76	2.90	2.67	2.51
<b>TOTAL NON-OPEC</b>	<b>57.96</b>	<b>60.41</b>	<b>61.94</b>	<b>60.02</b>	<b>61.32</b>	<b>61.18</b>	<b>60.85</b>	<b>61.54</b>	<b>61.16</b>	<b>61.52</b>	<b>61.06</b>
<b>TOTAL SUPPLY</b>	<b>97.45</b>			<b>99.08</b>	<b>100.90</b>				<b>100.91</b>	<b>101.43</b>	<b>101.08</b>

<sup>1</sup> Includes condensates reported by OPEC countries, oil from non-conventional sources, e.g. NGLs in Qatar and Nigeria

and non-oil inputs to Saudi Arabian MTBE.

<sup>2</sup> Latin America excludes Ecuador throughout. Africa excludes Angola, Congo, Gabon and Equatorial Guinea throughout. Asia includes Indonesia throughout.

<sup>3</sup> Comprises crude oil, condensates, NGLs and oil from non-conventional sources

<sup>4</sup> Includes small amounts of production from Jordan and Bahrain.

<sup>5</sup> Net volumetric gains and losses in refining and marine transportation losses.

**Table 4**  
**OECD INDUSTRY STOCKS<sup>1</sup> AND QUARTERLY STOCK CHANGES**

	RECENT MONTHLY STOCKS <sup>2</sup>					PRIOR YEARS' STOCKS <sup>2</sup>			STOCK CHANGES			
	in Million Barrels					in Million Barrels			in mb/d			
	Jun2018	Jul2018	Aug2018	Sep2018	Oct2018*	Oct2015	Oct2016	Oct2017	4Q2017	1Q2018	2Q2018	3Q2018
<b>OECD Americas</b>												
Crude	572.6	563.2	566.8	571.8	603.0	610.6	649.6	617.1	-0.48	0.04	-0.14	-0.01
Motor Gasoline	266.9	264.7	267.6	270.2	260.9	247.1	257.6	247.3	0.17	0.06	-0.07	0.04
Middle Distillate	191.5	199.3	205.1	216.2	199.4	210.6	230.5	200.9	0.09	-0.15	-0.16	0.27
Residual Fuel Oil	35.3	34.7	34.2	35.2	35.5	50.2	45.6	35.8	-0.06	0.06	-0.06	0.00
Total Products <sup>3</sup>	708.7	723.2	741.9	764.7	734.7	745.8	782.3	722.6	-0.10	-0.35	0.06	0.61
Total <sup>4</sup>	1471.1	1478.3	1506.6	1540.6	1542.8	1545.4	1626.9	1540.0	-0.79	-0.34	0.03	0.76
<b>OECD Europe</b>												
Crude	354.7	352.7	341.6	327.0	325.3	347.2	351.1	335.0	-0.08	0.16	0.12	-0.30
Motor Gasoline	84.1	83.6	83.5	84.8	86.7	89.2	92.3	89.9	0.13	-0.03	-0.14	0.01
Middle Distillate	257.5	265.3	278.2	271.6	260.6	301.4	314.6	276.2	-0.24	-0.03	-0.12	0.15
Residual Fuel Oil	60.8	61.5	60.8	58.2	58.0	69.8	69.2	62.0	0.00	0.03	-0.01	-0.03
Total Products <sup>3</sup>	520.9	530.5	541.2	533.3	521.6	556.9	575.0	539.9	-0.13	0.03	-0.27	0.13
Total <sup>4</sup>	958.0	964.5	961.2	936.4	925.1	973.7	997.9	948.2	-0.24	0.25	-0.13	-0.23
<b>OECD Asia Oceania</b>												
Crude	161.8	158.5	157.6	140.2	156.9	205.1	202.3	188.4	-0.10	-0.31	0.01	-0.24
Motor Gasoline	24.2	24.7	23.7	24.0	25.9	23.1	24.0	23.0	0.00	0.01	0.00	0.00
Middle Distillate	65.3	71.6	73.0	77.3	75.4	65.0	71.5	72.8	-0.04	-0.01	0.04	0.13
Residual Fuel Oil	20.8	19.7	19.1	19.5	18.3	21.9	19.1	20.9	0.00	-0.01	0.03	-0.01
Total Products <sup>3</sup>	164.5	172.0	172.9	183.4	182.0	168.5	181.1	182.8	-0.08	-0.04	0.04	0.21
Total <sup>4</sup>	387.8	393.8	396.5	389.0	403.9	439.1	446.7	435.4	-0.23	-0.38	0.11	0.01
<b>Total OECD</b>												
Crude	1089.1	1074.3	1065.9	1038.9	1085.3	1162.9	1202.9	1140.5	-0.66	-0.11	-0.01	-0.55
Motor Gasoline	375.1	373.0	374.8	379.0	373.4	359.4	373.9	360.3	0.30	0.05	-0.20	0.04
Middle Distillate	514.2	536.2	556.3	565.1	535.4	577.0	616.6	549.9	-0.19	-0.19	-0.24	0.55
Residual Fuel Oil	116.9	115.9	114.0	112.8	111.8	141.9	133.9	118.7	-0.05	0.09	-0.04	-0.04
Total Products <sup>3</sup>	1394.1	1425.7	1456.0	1481.3	1438.3	1471.2	1538.4	1445.3	-0.31	-0.36	-0.18	0.95
Total <sup>4</sup>	2816.9	2836.5	2864.3	2866.1	2871.8	2958.1	3071.4	2923.6	-1.26	-0.46	0.01	0.53

**OECD GOVERNMENT-CONTROLLED STOCKS<sup>5</sup> AND QUARTERLY STOCK CHANGES**

	RECENT MONTHLY STOCKS <sup>2</sup>					PRIOR YEARS' STOCKS <sup>2</sup>			STOCK CHANGES			
	in Million Barrels					in Million Barrels			in mb/d			
	Jun2018	Jul2018	Aug2018	Sep2018	Oct2018*	Oct2015	Oct2016	Oct2017	4Q2017	1Q2018	2Q2018	3Q2018
<b>OECD Americas</b>												
Crude	660.0	660.0	660.0	660.0	655.5	695.1	695.1	669.0	-0.12	0.03	-0.06	0.00
Products	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	0.00	0.00	0.00	0.00
<b>OECD Europe</b>												
Crude	208.6	208.1	208.2	209.1	208.8	206.2	204.9	207.4	-0.02	0.02	0.01	0.01
Products	273.5	274.5	271.2	269.4	269.2	257.6	268.6	265.0	0.04	0.04	-0.01	-0.04
<b>OECD Asia Oceania</b>												
Crude	383.4	383.3	383.3	383.4	383.4	381.5	385.7	385.0	-0.01	-0.01	0.00	0.00
Products	38.7	38.7	38.7	38.7	38.7	33.9	36.5	38.3	0.00	0.00	0.00	0.00
<b>Total OECD</b>												
Crude	1252.0	1251.4	1251.5	1252.5	1247.7	1282.9	1285.7	1261.4	-0.15	0.04	-0.05	0.01
Products	314.2	315.2	311.9	310.2	309.9	293.5	307.0	305.3	0.04	0.04	-0.01	-0.04
Total <sup>4</sup>	1569.6	1569.8	1566.6	1565.2	1560.3	1580.9	1595.0	1570.2	-0.11	0.08	-0.06	-0.05

\* estimated

1 Stocks are primary national territory stocks on land (excluding utility stocks and including pipeline and entrepot stocks where known) and include stocks held by industry to meet IEA, EU and national emergency reserve commitments and are subject to government control in emergencies.

2 Closing stock levels.

3 Total products includes gasoline, middle distillates, fuel oil and other products.

4 Total includes NGLs, refinery feedstocks, additives/oxygenates and other hydrocarbons.

5 Includes government-owned stocks and stock holding organisation stocks held for emergency purposes.

**Table 5**  
**TOTAL STOCKS ON LAND IN OECD COUNTRIES<sup>1</sup>**  
(‘millions of barrels’ and ‘days’)

	End September 2017		End December 2017		End March 2018		End June 2018		End September 2018 <sup>3</sup>	
	Stock Level	Days Fwd <sup>2</sup> Demand	Stock Level	Days Fwd Demand	Stock Level	Days Fwd Demand	Stock Level	Days Fwd Demand	Stock Level	Days Fwd Demand
<b>OECD Americas</b>										
Canada	185.7	74	189.2	81	191.9	82	190.3	75	194.8	-
Chile	12.5	35	11.5	31	10.8	29	12.3	33	11.6	-
Mexico	46.5	24	43.8	22	47.3	23	39.1	20	40.6	-
United States <sup>4</sup>	1979.8	98	1896.6	94	1863.8	92	1869.2	91	1933.6	-
Total <sup>4</sup>	2246.6	89	2163.2	86	2135.9	84	2133.1	83	2202.7	86
<b>OECD Asia Oceania</b>										
Australia	33.7	28	34.2	29	40.3	33	42.4	35	42.1	-
Israel	-	-	-	-	-	-	-	-	-	-
Japan	571.3	141	562.8	132	538.6	157	549.4	155	561.2	-
Korea	243.5	92	230.6	88	213.0	84	209.6	84	200.0	-
New Zealand	8.1	46	7.4	41	8.0	50	8.4	50	7.8	-
Total	856.6	103	835.1	98	800.0	105	809.8	106	811.1	100
<b>OECD Europe<sup>5</sup></b>										
Austria	22.1	83	21.4	84	23.0	83	21.2	73	20.1	-
Belgium	44.1	66	41.4	59	46.2	75	43.8	70	44.5	-
Czech Republic	21.4	98	21.5	108	22.7	104	21.4	97	21.5	-
Denmark	23.6	146	23.4	152	22.1	137	22.8	141	20.8	-
Estonia	2.2	82	3.0	113	2.5	81	2.6	89	2.6	-
Finland	44.7	213	41.1	186	41.0	190	40.8	183	40.0	-
France	165.2	99	165.7	97	166.0	98	168.5	97	164.6	-
Germany	273.9	113	278.8	119	279.9	122	278.2	121	273.0	-
Greece	32.3	108	32.4	116	33.3	115	32.1	99	34.4	-
Hungary	26.2	150	25.4	152	26.1	147	25.2	138	25.6	-
Ireland	10.1	63	11.0	68	11.4	73	10.0	67	9.9	-
Italy	127.7	102	125.1	100	125.8	99	125.4	97	124.5	-
Latvia	1.5	36	2.5	67	3.1	72	3.6	79	2.3	-
Luxembourg	0.6	11	0.6	10	0.6	9	0.4	7	0.5	-
Netherlands	149.7	163	142.5	154	147.8	159	142.4	151	143.8	-
Norway	22.0	89	23.3	92	27.2	126	26.4	99	22.2	-
Poland	69.2	102	71.8	113	75.0	111	75.7	105	74.1	-
Portugal	24.1	98	22.9	99	24.8	106	23.8	94	23.5	-
Slovak Republic	12.1	126	11.4	146	12.1	132	11.6	135	12.0	-
Slovenia	4.7	88	5.2	99	5.1	92	4.9	85	4.8	-
Spain	127.2	98	119.5	91	124.7	94	117.9	88	119.7	-
Sweden	42.3	131	35.6	127	38.7	115	37.7	119	34.5	-
Switzerland	35.4	148	33.9	159	33.1	158	33.6	159	33.0	-
Turkey	83.9	80	83.2	90	84.1	87	90.1	80	87.0	-
United Kingdom	77.5	48	80.1	51	79.0	49	83.4	51	78.9	-
Total	1443.9	100	1422.6	101	1455.1	103	1443.5	99	1417.5	99
<b>Total OECD</b>	<b>4547.0</b>	<b>95</b>	<b>4420.8</b>	<b>92</b>	<b>4391.1</b>	<b>93</b>	<b>4386.4</b>	<b>91</b>	<b>4431.3</b>	<b>92</b>
<b>DAYS OF IEA Net Imports<sup>6</sup> -</b>	<b>192</b>	<b>-</b>	<b>187</b>	<b>-</b>	<b>186</b>	<b>-</b>	<b>190</b>	<b>-</b>	<b>191</b>	<b>-</b>

<sup>1</sup> Total Stocks are industry and government-controlled stocks (see breakdown in table below). Stocks are primary national territory stocks on land (excluding utility stocks and including pipeline and entropot stocks where known) they include stocks held by industry to meet IEA, EU and national emergency reserves commitments and are subject to government control in emergencies.

<sup>2</sup> Note that days of forward demand represent the stock level divided by the forward quarter average daily demand and is very different from the days of net imports used for the calculation of IEA Emergency Reserves.

<sup>3</sup> End September 2018 forward demand figures are IEA Secretariat forecasts.

<sup>4</sup> US figures exclude US territories. Total includes US territories.

<sup>5</sup> Data not available for Iceland.

<sup>6</sup> Reflects stock levels and prior calendar year's net imports adjusted according to IEA emergency reserve definitions (see [www.iea.org/netimports.asp](http://www.iea.org/netimports.asp)). Net exporting IEA countries are excluded.

## TOTAL OECD STOCKS

CLOSING STOCKS	Total	Government <sup>1</sup> controlled Millions of Barrels	Industry	Total	Government <sup>1</sup> controlled Days of Fwd. Demand <sup>2</sup>	Industry
3Q2015	4538	1581	2957	97	34	63
4Q2015	4577	1588	2989	98	34	64
1Q2016	4633	1595	3039	100	35	66
2Q2016	4668	1592	3076	99	34	65
3Q2016	4679	1596	3084	99	34	65
4Q2016	4602	1600	3002	98	34	64
1Q2017	4630	1600	3031	98	34	64
2Q2017	4608	1588	3019	97	33	63
3Q2017	4547	1578	2969	95	33	62
4Q2017	4421	1568	2853	92	33	60
1Q2018	4391	1575	2816	93	33	60
2Q2018	4386	1570	2817	91	33	59
3Q2018	4431	1565	2866	92	33	60

<sup>1</sup> Includes government-owned stocks and stock holding organisation stocks held for emergency purposes.

<sup>2</sup> Days of forward demand calculated using actual demand except in 3Q2018 (when latest forecasts are used).



**Table 6**  
**IEA MEMBER COUNTRY DESTINATIONS OF SELECTED CRUDE STREAMS<sup>1</sup>**  
(million barrels per day)

	2015	2016	2017	4Q17	1Q18	2Q18	3Q18	Jul 18	Aug 18	Sep 18	Year Earlier	
											Sep 17	change
<b>Saudi Light &amp; Extra Light</b>												
Americas	0.63	0.69	0.59	0.47	0.54	0.79	0.64	0.66	0.58	0.69	0.37	0.31
Europe	0.78	0.79	0.69	0.68	0.58	0.70	0.77	0.77	0.74	0.79	0.62	0.18
Asia Oceania	1.25	1.40	1.56	1.53	1.50	1.42	1.32	1.22	1.49	1.26	1.38	-0.12
<b>Saudi Medium</b>												
Americas	0.37	0.44	0.33	0.27	0.20	0.28	0.39	0.33	0.49	0.34	0.25	0.10
Europe	0.03	0.01	0.01	0.02	0.02	0.01	0.00	-	0.01	-	0.04	-
Asia Oceania	0.44	0.41	0.37	0.41	0.40	0.42	0.44	0.42	0.45	0.43	0.50	-0.07
<b>Canada Heavy</b>												
Americas	1.90	2.04	2.23	2.17	2.33	2.48	2.26	2.14	2.44	2.21	2.26	-0.05
Europe	0.01	0.01	0.02	0.04	0.03	0.04	0.06	0.07	0.04	0.07	0.03	0.03
Asia Oceania	-	-	-	-	0.00	0.00	-	-	-	-	-	-
<b>Iraqi Basrah Light<sup>2</sup></b>												
Americas	0.17	0.42	0.63	0.75	0.66	0.63	0.35	0.41	0.21	0.42	0.51	-0.09
Europe	0.72	0.81	0.76	0.70	0.65	0.61	0.90	0.86	0.96	0.89	0.87	0.02
Asia Oceania	0.41	0.46	0.40	0.39	0.42	0.48	0.39	0.37	0.41	0.38	0.27	0.11
<b>Kuwait Blend</b>												
Americas	0.13	0.14	0.11	0.03	0.03	0.04	-	-	-	-	-	-
Europe	0.13	0.19	0.20	0.14	0.13	0.08	0.19	0.18	0.22	0.18	0.25	-0.06
Asia Oceania	0.65	0.66	0.68	0.67	0.68	0.66	0.69	0.69	0.67	0.71	0.67	0.05
<b>Iranian Light</b>												
Americas	-	-	-	-	-	-	-	-	-	-	-	-
Europe	0.09	0.21	0.27	0.20	0.24	0.26	0.11	0.11	0.12	0.11	0.25	-0.14
Asia Oceania	0.01	0.01	0.01	0.01	0.02	0.01	0.02	0.03	0.01	0.03	0.04	-0.02
<b>Iranian Heavy<sup>3</sup></b>												
Americas	-	-	-	-	-	-	-	-	-	-	-	-
Europe	0.02	0.21	0.52	0.54	0.42	0.44	0.34	0.28	0.45	0.29	0.57	-0.28
Asia Oceania	0.27	0.52	0.57	0.54	0.49	0.36	0.16	0.12	0.23	0.12	0.67	-0.55
<b>BFOE</b>												
Americas	0.01	0.02	0.02	0.01	-	0.00	-	-	-	-	0.03	-
Europe	0.49	0.44	0.45	0.52	0.41	0.25	0.41	0.36	0.47	0.38	0.44	-0.07
Asia Oceania	0.06	0.05	0.10	0.14	0.09	0.09	0.04	-	0.13	-	0.11	-
<b>Kazakhstan</b>												
Americas	0.00	0.01	-	-	-	-	-	-	-	-	-	-
Europe	0.64	0.70	0.75	0.72	0.84	0.73	0.60	0.48	0.81	0.50	0.70	-0.20
Asia Oceania	0.06	0.03	0.10	0.13	0.13	0.19	0.16	0.14	0.20	0.14	0.18	-0.04
<b>Venezuelan 22 API and heavier</b>												
Americas	0.67	0.63	0.48	0.39	0.40	0.47	0.36	0.33	0.39	0.34	0.34	0.00
Europe	0.09	0.05	0.04	0.03	0.02	0.02	0.03	0.04	0.03	0.04	0.03	0.01
Asia Oceania	-	-	-	-	-	-	-	-	-	-	-	-
<b>Mexican Maya</b>												
Americas	0.50	0.53	0.58	0.67	0.64	0.63	0.73	0.67	0.84	0.69	0.41	0.28
Europe	0.15	0.17	0.20	0.26	0.27	0.22	0.15	0.16	0.13	0.17	0.14	0.02
Asia Oceania	0.01	0.05	0.07	0.10	0.06	0.10	0.06	0.07	0.03	0.07	0.03	0.04
<b>Russian Urals</b>												
Americas	-	-	0.01	0.01	-	-	-	-	-	-	0.02	-
Europe	1.61	1.72	1.64	1.67	1.38	1.46	1.32	1.23	1.45	1.27	1.72	-0.44
Asia Oceania	-	-	0.01	-	-	0.01	-	-	-	-	-	-
<b>Cabinda and Other Angola</b>												
North America	0.11	0.16	0.07	0.07	-	0.10	0.09	0.08	0.10	0.08	0.15	-0.06
Europe	0.42	0.27	0.11	0.10	0.14	0.11	0.24	0.21	0.27	0.22	0.19	0.03
Pacific	0.02	0.01	0.01	-	-	0.00	-	-	-	-	0.06	-
<b>Nigerian Light<sup>4</sup></b>												
Americas	0.02	0.07	0.04	0.06	0.03	0.01	-	-	-	-	-	-
Europe	0.57	0.39	0.39	0.38	0.48	0.49	0.58	0.58	0.56	0.60	0.36	0.24
Asia Oceania	-	0.01	0.02	0.01	0.02	0.03	0.01	0.01	-	0.01	0.03	-0.02
<b>Libya Light and Medium</b>												
Americas	-	-	0.02	0.03	-	-	-	-	-	-	-	-
Europe	0.22	0.20	0.54	0.70	0.65	0.64	0.68	0.75	0.50	0.78	0.64	0.14
Asia Oceania	0.01	0.02	0.03	0.03	0.02	0.01	0.02	0.02	0.02	0.02	0.02	0.01

<sup>1</sup> Data based on monthly submissions from IEA countries to the crude oil import register (in '000 bbl), subject to availability. May differ from Table 8 of the Report. IEA Americas includes United States and Canada. IEA Europe includes all countries in OECD Europe except Estonia, Hungary, Slovenia and Latvia. IEA Asia Oceania includes Australia, New Zealand, Korea and Japan.

<sup>2</sup> Iraqi Total minus Kirkuk.

<sup>3</sup> Iranian Total minus Iranian Light.

<sup>4</sup> 33° API and lighter (e.g., Bonny Light, Escravos, Qua Iboe and Oso Condensate).

**Table 7**  
**REGIONAL OECD IMPORTS<sup>1,2</sup>**  
(thousand barrels per day)

	2015	2016	2017	4Q17	1Q18	2Q18	3Q18	Jul 18	Aug 18	Sep 18	Year Earlier	
											Sep 17	% change
<b>Crude Oil</b>												
Americas	4026	4542	4361	3941	3827	4085	3905	4068	3899	3744	4005	-7%
Europe	9505	9253	9711	9935	9502	9433	9728	9920	9814	9439	9752	-3%
Asia Oceania	6573	6659	6842	6942	6849	6571	6545	6783	6853	5980	6629	-10%
Total OECD	20103	20455	20914	20818	20178	20089	20178	20772	20566	19163	20385	-6%
<b>LPG</b>												
Americas	10	20	20	25	33	14	17	12	16	25	21	23%
Europe	418	445	437	400	492	469	427	435	415	433	430	1%
Asia Oceania	518	567	549	538	595	567	505	442	542	531	368	44%
Total OECD	947	1032	1006	963	1120	1050	949	889	972	989	818	21%
<b>Naphtha</b>												
Americas	14	10	19	20	10	5	6	11	3	5	35	-85%
Europe	345	348	369	389	408	371	317	283	314	357	398	-10%
Asia Oceania	950	908	981	991	1031	958	1007	1045	922	1057	985	7%
Total OECD	1309	1266	1369	1399	1450	1334	1331	1339	1238	1419	1418	0%
<b>Gasoline<sup>3</sup></b>												
Americas	670	735	727	560	559	1060	968	977	1047	876	1013	-14%
Europe	105	100	162	224	155	67	85	89	53	114	83	36%
Asia Oceania	91	87	103	94	123	123	99	109	105	83	75	10%
Total OECD	866	922	991	879	837	1250	1151	1174	1205	1073	1172	-8%
<b>Jet &amp; Kerosene</b>												
Americas	141	169	171	210	131	136	178	179	176	179	239	-25%
Europe	445	504	506	535	426	538	599	622	631	541	620	-13%
Asia Oceania	66	73	77	87	112	60	52	61	42	52	51	1%
Total OECD	651	745	754	832	669	733	829	862	849	773	910	-15%
<b>Gasoil/Diesel</b>												
Americas	76	67	77	144	179	63	130	93	160	137	36	278%
Europe	1161	1340	1381	1360	1403	1381	1448	1601	1440	1300	1235	5%
Asia Oceania	158	196	195	179	214	256	234	257	214	231	176	31%
Total OECD	1395	1602	1654	1684	1795	1700	1812	1950	1813	1668	1447	15%
<b>Heavy Fuel Oil</b>												
Americas	116	149	131	128	158	161	195	184	198	204	128	59%
Europe	537	477	240	174	239	227	249	308	282	154	448	-66%
Asia Oceania	173	153	146	153	192	156	148	103	160	183	104	76%
Total OECD	826	779	517	456	589	544	593	596	641	541	680	-20%
<b>Other Products</b>												
Americas	675	652	717	745	722	658	699	659	719	721	818	-12%
Europe	701	774	1009	979	1058	979	1125	1283	1071	1019	750	36%
Asia Oceania	345	348	255	248	277	250	255	222	295	248	270	-8%
Total OECD	1721	1774	1981	1972	2057	1886	2080	2164	2084	1987	1838	8%
<b>Total Products</b>												
Americas	1702	1802	1862	1832	1793	2095	2194	2115	2320	2147	2290	-6%
Europe	3712	3988	4104	4062	4181	4031	4251	4621	4205	3918	3964	-1%
Asia Oceania	2301	2331	2306	2292	2543	2371	2299	2238	2279	2384	2029	17%
Total OECD	7715	8121	8272	8185	8517	8496	8745	8974	8803	8449	8284	2%
<b>Total Oil</b>												
Americas	5728	6344	6223	5773	5620	6180	6100	6183	6218	5891	6295	-6%
Europe	13216	13241	13815	13996	13683	13464	13979	14541	14019	13357	13716	-3%
Asia Oceania	8874	8991	9147	9234	9392	8942	8844	9021	9131	8364	8658	-3%
Total OECD	27818	28575	29186	29003	28695	28586	28923	29746	29369	27612	28669	-4%

<sup>1</sup> Based on Monthly Oil Questionnaire data submitted by OECD countries in tonnes and converted to barrels.

<sup>2</sup> Excludes intra-regional trade.

<sup>3</sup> Includes additives.

**© OECD/IEA 2018. All Rights Reserved**

Without prejudice to the terms and conditions on the IEA website at [www.iea.org/t&c/termsandconditions/](http://www.iea.org/t&c/termsandconditions/) (the Terms), which also apply to this Oil Market Report (OMR) and its related publications, the Executive Director and the Secretariat of the IEA are responsible for the publication of the OMR. Although some of the data are supplied by IEA Member-country governments, largely on the basis of information they in turn receive from oil companies, neither these governments nor these oil companies necessarily share the Secretariat's views or conclusions as expressed in the OMR. The OMR is prepared for general circulation and is distributed for general information only. Neither the information nor any opinion expressed in the OMR constitutes an offer, or an invitation to make an offer, to buy or sell any securities or any options, futures or other derivatives related to such securities.

As set out in the Terms, the OECD/IEA owns the copyright in this OMR. However, in relation to the edition of OMR made available to Subscribers (as defined in the Terms), all Argus information is sourced as Copyright © 2018 Argus Media Limited and is published here with the permission of Argus. The spot crude and product price assessments are based on daily Argus prices, converted when appropriate to USD per barrel according to the Argus specification of products. Argus Media Limited reserves all rights in relation to all Argus information. Any reproduction of Argus information requires the express prior written permission of Argus. Argus shall not be liable to any party for any inaccuracy, error or omission contained or provided in Argus information contained in this OMR or for any loss, or damage, whether or not due to reliance placed by that party on information in this OMR.

# Oil Market Report Contacts

## Editor

**Neil Atkinson**

+33 (0)1 40 57 65 90  
✉ Neil.Atkinson@iea.org

## Demand

**Christophe Barret**

+33 (0)1 40 57 65 16  
✉ Christophe.Barret@iea.org

## OPEC Supply

**Peg Mackey**

+33 (0)1 40 57 65 81  
✉ Peg.Mackey@iea.org

## Non-OPEC Supply

**Toril Bosoni**

+33 (0)1 40 57 67 18  
✉ Toril.Bosoni@iea.org

## Refining

**Kristine Petrosyan**

+33 (0)1 40 57 66 05  
✉ Kristine.Petrosyan@iea.org

## Stocks

**Olivier Lejeune**

+33 (0)1 40 57 67 58  
✉ Olivier.Lejeune@iea.org

## Prices

**Anne Kloss**

+33 (0)1 40 57 67 28  
✉ Anne.Kloss@iea.org

## Analyst

**Jing Wang**

+33 (0)1 40 57 67 78  
✉ Jing.Wang@iea.org

## Analyst

**Masataka Yarita**

+33 (0)1 40 57 67 64  
✉ Masataka.Yarita@iea.org

## Statistics

**Pierre Monferrand**

+33 (0)1 40 57 66 67  
✉ Pierre.Monferrand@iea.org

## Editorial Assistant

**Deven Moonesawmy**

+33 (0)1 40 57 65 03  
✉ Deven.Moonesawmy@iea.org

## Media Enquiries IEA Press Office

+33 (0)1 40 57 65 54  
✉ ieapressoffice@iea.org

## Subscription and Delivery Enquiries

### Oil Market Report Subscriptions

### International Energy Agency

BP 586-75726 PARIS Cedex 15, France

✉ [OMRSubscriptions@iea.org](mailto:OMRSubscriptions@iea.org)

[www.iea.org/publications/oilmarketreport/](http://www.iea.org/publications/oilmarketreport/)

+33 (0)1 40 57 66 90

+33 (0)1 40 57 66 90

## User's Guide and Glossary to the IEA Oil Market Report

For information on the data sources, definitions, technical terms and general approach used in preparing the *Oil Market Report (OMR)*, *Market Report Series\_Oil* and *Annual Statistical Supplement* (current issue of the Statistical Supplement dated 10 August 2018), readers are referred to the *Users' Guide* at [www.oilmarketreport.org/glossary.asp](http://www.oilmarketreport.org/glossary.asp). It should be noted that the spot crude and product price assessments are based on daily Argus prices, converted when appropriate to US\$ per barrel according to the Argus specification of products (Copyright © 2018 Argus Media Limited - all rights reserved).

**Next Issue: 18 January 2019**

[www.oilmarketreport.org](http://www.oilmarketreport.org)