International Energy Agency
Secure Sustainable Together

18 January 2019

HIGHLIGHTS

- **Our estimates for global oil demand growth in 2018 and 2019 are unchanged at 1.3 mb/d and 1.4 mb/d, respectively.** The impact of higher oil prices in 2018 is fading, which will help offset lower economic growth.

- **Non-OECD countries dominate oil demand growth in 2019,** with the 875 kb/d seen last year accelerating to 1.15 mb/d. China and India provide 62% of the total. OECD growth will slow from 390 kb/d in 2018 to 280 kb/d in 2019. The US provides 82% of the OECD total.

- **Global oil supply fell by 950 kb/d in December,** led by lower OPEC output ahead of new supply cuts. At 100.6 mb/d, supply was up 2.8 mb/d on a year ago. Following annual gains of a record 2.6 mb/d in 2018, non-OPEC production growth is set to slow to 1.6 mb/d in 2019.

- **OPEC crude oil output dropped by 590 kb/d in December, to 32.39 mb/d.** Saudi Arabia cut back from record highs while Iran and Libya saw further losses. OPEC production is set to fall further in January, when new Vienna Agreement cuts take effect.

- **Global refining throughput is estimated to have reached a record high of 84.2 mb/d in December**, causing refinery margins to fall, despite the slide in crude prices. The refining system will have to absorb 2.6 mb/d of new capacity this year, its largest annual increase since the 1970s.

- **OECD commercial stocks fell 2.5 mb month-on-month in November to 2 857 mb. They showed little volatility during 2018**, moving within a narrow range of 60 mb and likely finishing the year 12 mb, or 0.4%, higher than at the end of 2017.

- **Benchmark crude oil futures prices fell to a 16-month low at the end of 2018.** Since the beginning of 2019 they have gained over 10% and ICE Brent is currently close to $60/bbl. Well-supplied markets, particularly for gasoline and jet fuel, pressured crack spreads.

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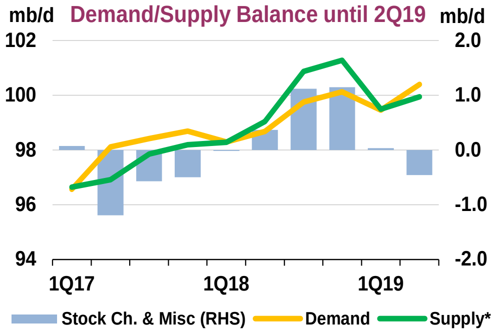
A marathon, not a sprint

Last month, we asked if there was a floor under prices following the signing of a new Vienna Agreement that aims to re-balance the oil market. Following an initial burst of enthusiasm for the deal, scepticism set in, alongside worries about the global economic background. Prices fell by $10/bbl with Brent crude oil bottoming out on 24 December at just above $50/bbl. For the producers, this was unwelcome, but for consumers it provided a nice present for the holidays. In the US Gulf Coast, gasoline prices in early January averaged $1.89/gal versus the summer peak of $2.79/gal and in India, prices are about 14% below the early October peak. Recently, leading producers have restated their commitment to cut output and data show that words were transformed into actions. In December, OPEC production fell by almost 600 kb/d and Saudi Arabia has signalled that, for its part, further significant cutbacks will take place in January and beyond.



* Assumes 100% OPEC compliance with Dec 2018 Vienna Agreement and further declines in Iran and Venezuela.

The Brent price has moved back above $60/bbl, so the answer to our question posed last month seems to be a qualified yes, at least for now. However, the journey to a balanced market will take time, and is more likely to be a marathon than a sprint. While Saudi Arabia is determined to protect its price aspirations by delivering substantial production cuts, there is less clarity with regard to its Russian partner. Data show that Russia increased crude oil production in December to a new record near 11.5 mb/d and it is unclear when it will cut and by how much. Other non-OPEC countries joining in the output deal saw higher output, including Mexico.

Elsewhere, there are signs that market re-balancing will be gradual. The trajectory of Iran's production and exports remains important. In December, total exports increased slightly to over 1.3 mb/d. With US waivers allowing Iran's major customers to buy higher volumes than was previously thought, more oil will remain in the market in the early part of 2019. Venezuela has seen the collapse of its oil industry slow during the second half of 2018 with production falling recently by about 10 kb/d each month rather than by the 40 kb/d we saw earlier in the year. The level of output in the world's biggest liquids producer, the United States, will once again be a major factor in 2019. We saw incredible and unexpected growth in total liquids production of 2.1 mb/d in 2018. For this year, we have left unchanged for now our forecast for growth of 1.3 mb/d. While the other two giants voluntarily cut output, the US, already the biggest *liquids* supplier, will reinforce its leadership as the world's number one *crude* producer. By the middle of the year, US crude output will probably be more than the *capacity* of either Saudi Arabia or Russia.

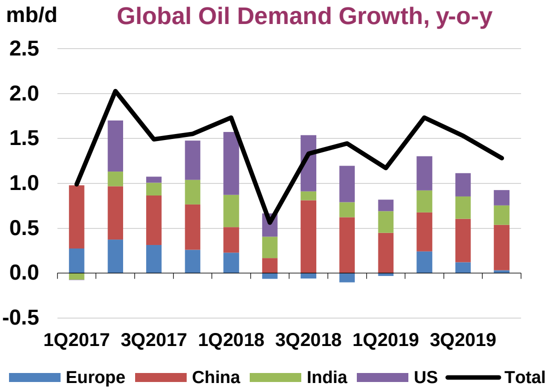
For oil demand, there is a mixed picture. Falling prices in 4Q18 helped consumers and there are signs that trade tensions might be easing. In many developing countries, lower international oil prices coincide with a weaker dollar as the likelihood of higher US interest rates fades for now. However, the mood music in the global economy is not very cheerful. Confidence is weakening in several major economies. In the short term, there is added uncertainty about oil demand due to the onset of the northern hemisphere winter season, with low temperatures seen in the past few days in many places. For now, we retain our view that demand growth in 2018 was 1.3 mb/d, and this year it will be slightly higher at 1.4 mb/d, mainly due to average prices being below year-ago levels.

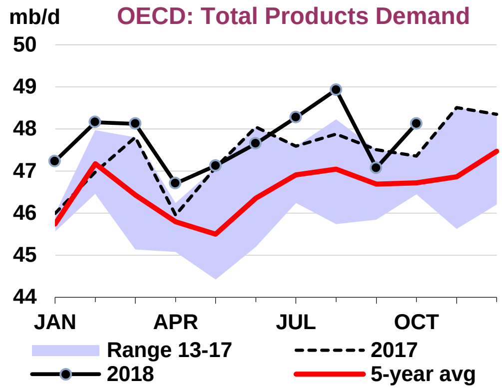
In the meantime, refiners face a challenging year. Processing capacity will increase by 2.6 mb/d, the biggest growth for four decades, while margins are already pressured by low gasoline cracks due to oversupply and weak demand. The well-trailed changes to the International Maritime Organisation's marine fuel regulations due in 2020 are another big issue for some refiners as they seek to find outlets for unwanted high sulphur fuel oil. By the end of the year, all industry players, upstream and downstream, may feel as if they have run a marathon.

DEMAND

Summary

Our estimates for oil demand growth in 2018 and 2019 remain unchanged, at 1.3 mb/d and 1.4 mb/d, respectively. October data were more or less in line with our expectations and our underlying price and economic growth assumptions are also essentially unchanged.





Global oil demand growth accelerated slightly through the end of the year from 1.3 mb/d in 3Q18 to 1.4 mb/d in 4Q18, as the negative year-on-year (y-o-y) impact of prices disappeared. Within the OECD though, there were sharp differences between regions. In OECD Asia and OECD Europe, demand contracted in the second half of the year while in the same period the US posted strong growth, supported by ethane and gasoil. Total OECD demand is thought to have increased by 390 kb/d in 2018, and in 2019, the growth will slow to 280 kb/d. Non-OECD demand was stronger, with growth accelerating in 2H18. In non-OECD Asia, demand is believed to have increased by 1 m/d in 2H18. Total non-OECD demand is projected to have increased by 875 kb/d in 2018, and this year the pace will accelerate to 1.15 mb/d.

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	32.3	32.0	31.7	32.1	32.5	32.4	32.2
Asia/Pacific	34.2	34.1	33.4	34.7	34.1	35.0	34.6	34.2	35.4	34.8	35.8	35.3	35.0	36.3	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	15.1	15.2
FSU	4.3	4.5	4.7	4.6	4.5	4.5	4.6	4.9	4.7	4.7	4.5	4.7	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	8.2	8.6	8.9	8.3	8.5
World	**96.6**	**98.1**	**98.4**	**98.7**	**98.0**	**98.3**	**98.7**	**99.8**	**100.1**	**99.2**	**99.5**	**100.4**	**101.3**	**101.4**	**100.7**
Annual Chg (%)	1.0	2.1	1.5	1.6	1.6	1.8	0.6	1.4	1.4	1.3	1.2	1.8	1.5	1.3	1.4
Annual Chg (mb/d)	1.0	2.0	1.5	1.5	1.5	1.7	0.6	1.3	1.4	1.3	1.2	1.7	1.5	1.3	1.4
Changes from last OMR (mb/d)	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	-0.1	0.1	0.2	0.0	0.1	0.1	0.1

* Including biofuels

For 2019, non-OECD Asia and OECD Americas will be the fastest growing regions. Our expectation for slightly faster global demand growth in 2019 is maintained even though economic growth is likely to be slower than in 2018. Oil prices exerted a strong negative impact on demand in 2018, when, for the year as a whole, they were 31% higher than in 2017. In contrast, based on the current futures curve, they could fall by 14% in 2019, which will provide some stimulus to demand.

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	11,968	12,098	297	748	2.5	6.6
Naphtha	6,441	6,164	6,255	-34	-9	-0.5	-0.1
Motor Gasoline	25,396	26,035	26,475	-188	129	-0.7	0.5
Jet Fuel & Kerosene	7,755	7,661	7,998	349	348	4.8	4.5
Gas/Diesel Oil	28,053	28,556	28,288	227	61	0.8	0.2
Residual Fuel Oil	6,960	6,945	7,032	-169	-12	-2.4	-0.2
Other Products	10,836	11,346	11,607	78	66	0.7	0.6
Total Products	**98,299**	**98,674**	**99,753**	**561**	**1,331**	**0.6**	**1.4**

Fundamentals

Most indicators point to a slowdown in global economic activity. Uncertainties around various key issues have increased, including trade tensions, the effectiveness of stimulus measure in China, the fallout from Brexit, and US interest rate policy. There is room for policy reactions, however, and for now, we have maintained our economic forecast for 2019, which assumes global GDP growth of 3.7%. Our oil price assumption, based on the forward curve, remains largely unchanged from last month's *Report* at about $61/bbl on average.

The latest Chinese data point to a significant slowdown in economic activity. GDP growth slowed to 6.5% in 3Q18, the weakest pace since 2009, and some analysts expect growth in 4Q18 to have slowed further. In November, industrial production growth weakened to 5.4% y-o-y from 5.9% in October, the slowest since early 2016. Retail sales growth also declined from 8.6% in October to 8.1% in November, the lowest since 2003. The slowdown is mainly caused by the tightening of credit conditions and the move to a more "qualitative" development, resulting in stricter environmental policies and the shutdown of many old industries. Trade tensions may have exacerbated the impact of domestic policies recently. Chinese trade data highlighted the risk of a global trade slowdown, showing exports unexpectedly falling by 4.4% y-o-y in December. Imports also contracted by 7.6% y-o-y. The government implemented fiscal and monetary stimulus to counter the slowdown. It approved $125bn in new railway and subway projects. The finance ministry issued new quotas of bond sales to local governments to finance infrastructure projects. New tax cuts were implemented to support small businesses and manufacturers. The central bank cut the required reserve ratio for Chinese banks and injected record levels of liquidity into the banking system to help increase lending. The response of the Chinese economy to these measures and to a resolution of the trade disputes remains to be seen. In the meantime, the current GDP growth forecast of 6.2% in 2019 still appears to be achievable.

The slowdown in China is putting pressure on its trade partners and partly explains the weakness seen elsewhere. European activity seems to be slowing significantly, with Eurozone industrial production contracting by 3.3% y-o-y and 1.7% month-on-month (m-o-m) in November, the largest decline in almost three years. German economic growth is reported to have dropped, partly due to lower exports to China and elsewhere. For 2018 as a whole, GDP growth was 1.5%, down from 2.2% in 2017 which is the slowest pace since 2013. The Italian economy also contracted in 3Q18 and is likely to have entered a recession in 4Q18, partly due to the burden of increased borrowing costs. Anti-government protests in France have had a negative impact on the economy. Recent developments in the UK's Brexit saga are also adding to uncertainty.

Even the US economy appears to be more fragile, in part because the record government shutdown will weigh on growth in 1Q19. The economy will also face higher interest rates and the impact of last year's tax cuts will fade. On the other hand, consumption remains strong and investment seems to be robust.

For the time being we retain our assumption that the strong growth rate seen in 1Q19 of 3.2% will decline to a still respectable 2.4% in 4Q19.

In this *Report*, our oil price assumption is almost identical to that of last month. Brent prices will fall from $71/bbl in 2018 to $61/bbl in 2019, a decline of 14%. This should be a supportive factor for oil consumers.

We are now in the middle of the northern hemisphere winter heating season, which can have a major impact on demand patterns for heating fuels. In December, temperatures were relatively high in the US, with heating degree-days 10.3% below the 10-year average. Temperatures were also high in Europe.

OECD

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

OECD Demand based on Adjusted Preliminary Submissions - November 2018

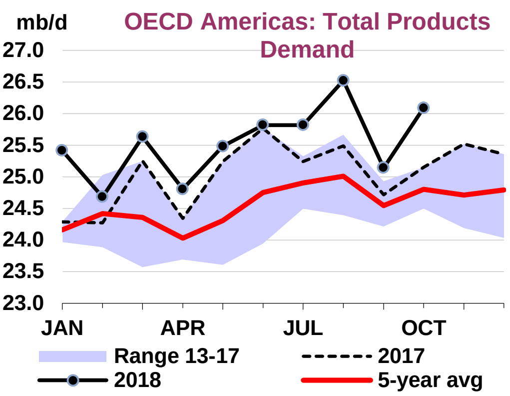
(million barrels per day)

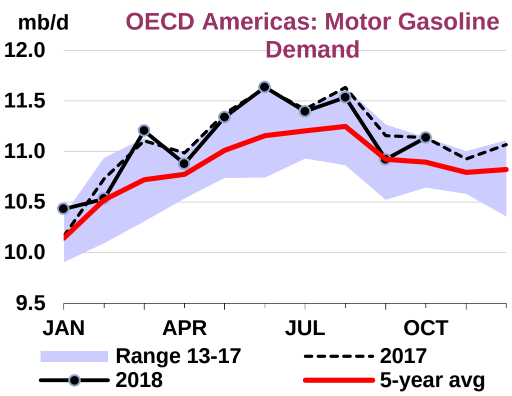
	Gasoline		Jet/Kerosene		Diesel		Other Gasoil		RFO		Other		Total Products	
	mb/d	% pa	mb/d	% pa	mb/d	% pa	mb/d	% pa	mb/d	% pa	mb/d	% pa	mb/d	% pa
OECD Americas*	**10.86**	**-0.6**	**2.08**	**5.2**	**4.87**	**0.3**	**0.53**	**-6.7**	**0.71**	**-3.6**	**6.57**	**1.8**	**25.62**	**0.4**
US50	9.10	-0.1	1.78	5.6	3.95	-0.4	0.19	-0.4	0.42	5.4	5.05	1.9	20.49	0.9
Canada	0.84	-2.0	0.15	1.8	0.29	-1.7	0.27	-13.9	0.04	-15.4	0.88	-4.9	2.47	-4.5
Mexico	0.77	-4.4	0.09	5.1	0.40	10.8	0.04	14.4	0.15	-21.2	0.51	11.4	1.97	1.3
OECD Europe	**1.88**	**0.6**	**1.35**	**0.9**	**5.16**	**-0.6**	**1.46**	**-11.8**	**0.91**	**-0.7**	**3.44**	**-4.2**	**14.20**	**-2.4**
Germany	0.43	-3.9	0.22	6.5	0.78	-3.0	0.32	-19.9	0.09	1.0	0.50	-17.3	2.34	-8.3
United Kingdom	0.29	-4.0	0.32	-0.3	0.56	-0.3	0.14	-3.9	0.02	-13.9	0.28	1.5	1.61	-1.2
France	0.22	26.5	0.15	7.7	0.75	2.7	0.25	-8.1	0.06	2.2	0.29	-5.0	1.72	2.5
Italy	0.15	2.5	0.08	1.0	0.50	4.9	0.09	2.2	0.08	7.6	0.37	-1.2	1.27	2.5
Spain	0.10	-1.1	0.12	1.2	0.46	-2.0	0.19	-4.7	0.16	-0.4	0.29	13.5	1.32	1.2
OECD Asia & Oceania	**1.53**	**-2.4**	**0.88**	**-16.7**	**1.51**	**1.6**	**0.49**	**-13.8**	**0.52**	**-10.6**	**2.94**	**-7.4**	**7.87**	**-6.7**
Japan	0.84	-5.0	0.46	-25.5	0.45	-0.8	0.34	-11.2	0.27	-0.3	1.43	-3.4	3.79	-7.3
Korea	0.23	5.6	0.21	-10.5	0.44	10.7	0.09	-28.2	0.21	-22.8	1.24	-13.0	2.43	-9.5
Australia	0.32	-1.9	0.16	2.0	0.55	-2.5	0.00	0.0	0.02	2.4	0.17	-0.7	1.23	-1.4
OECD Total	**14.27**	**-0.6**	**4.32**	**-1.4**	**11.54**	**0.1**	**2.48**	**-11.2**	**2.14**	**-4.2**	**12.94**	**-2.0**	**47.69**	**-1.7**

* Including US territories

Gasoline demand in OECD countries declined by 0.6% y-o-y in November, according to provisional data. Diesel demand was roughly flat in November, increasing by 0.1%. Gasoline is more responsive to prices than diesel and higher y-o-y prices until November will have impacted growth.

OECD Americas

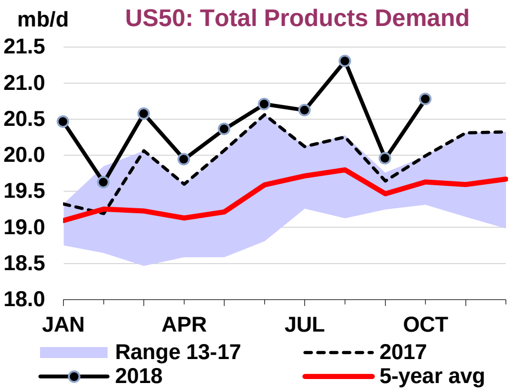


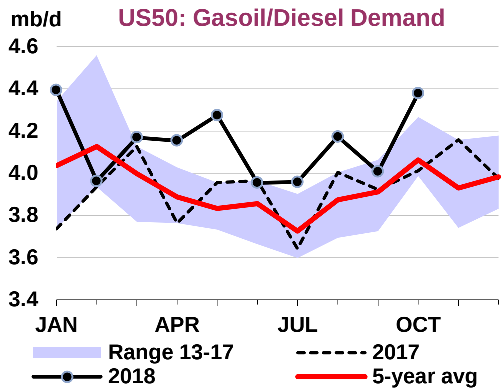


US oil demand is estimated to have risen by 410 kb/d in 4Q18, supported by strength in LPG/ethane and gasoil. Gasoline demand was particularly weak, contracting by 80 kb/d in 4Q18. Total US oil demand increased by 790 kb/d in October, supported by large LPG/ethane and gasoil deliveries.

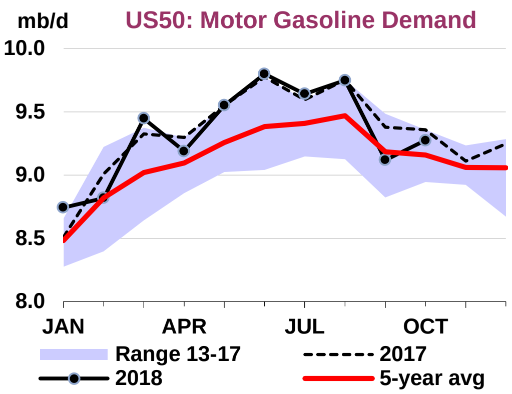
LPG/ethane demand growth is estimated at 235 kb/d y-o-y in 4Q18, due to the start-up of ethane-based ethylene crackers. For the year as a whole, demand grew by 295 kb/d, with very low temperatures at the start of the year, strong end-user demand in the summer in comparison with the hurricane-affected 2017 season, and the start-up of new petrochemical projects all contributing. Additional petrochemical projects will support growth in 2019, albeit at a slower pace of 130 kb/d.

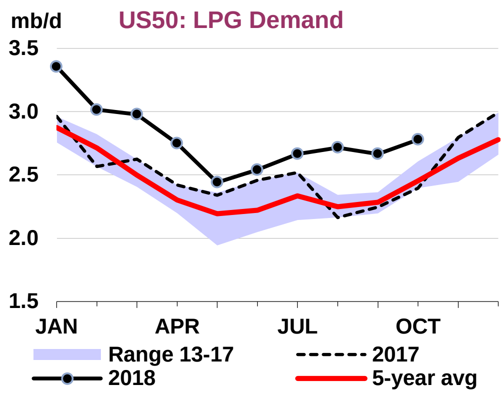
US gasoil demand is estimated to have increased by 165 kb/d y-o-y in 4Q18, after 190 kb/d in 3Q18. Truck transport is being supported by the growth in e-commerce and booming industrial production. Shale oil production, in particular, makes extensive use of trucks to move equipment and materials used in the fracking process. In addition, due to infrastructure bottlenecks, trucks are sometimes used to move crude oil out of producing areas. New pipelines coming on stream in 2H19 should reduce this.





Gasoline demand fell by 85 kb/d y-o-y in October. Weekly data point to further drops in November and December. US vehicle miles travelled nevertheless rose by 1.2% y-o-y in October, according to the Federal Highway Administration.





Jet fuel demand dropped by 85 kb/d y-o-y in October, after strong growth of 65 kb/d during the summer. Domestic air traffic (revenue passenger kilometres, or RPK) rose by 4.3% in October, and growth accelerated to 4.9% in November. Indeed, weekly data point to an increase of 95 kb/d in kerosene deliveries in November.

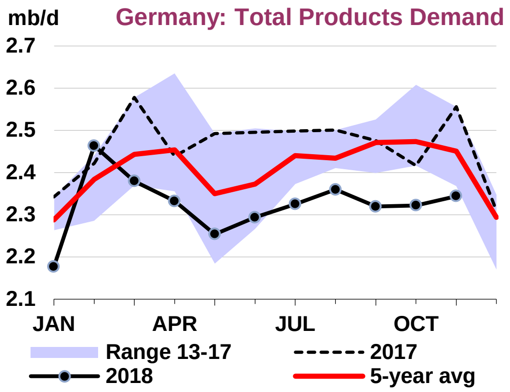
Canada's oil consumption rose strongly in September and October, by 90 kb/d and 120 kb/d, respectively, on a strong recovery by gasoline. Gasoline demand contracted between February and

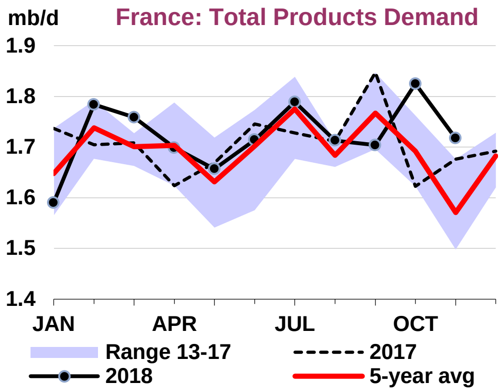
August 2018, but rose by 50 kb/d y-o-y in September and 80 kb/d in October. Total demand is estimated to have increased by 35 kb/d in 3Q18 and 5 kb/d y-o-y in 4Q18. **Mexico's** oil demand rose by 20 kb/d y-o-y in 3Q18, supported by strong LPG and diesel demand. Growth is expected at 40 kb/d in 4Q18.

Total North American oil demand, after rising strongly by 510 kb/d in 2018, will see a marked slowdown in 2019, with growth easing to 280 kb/d. A large part of the growth will come from LPG/ethane (145 kb/d) while gasoline demand should see a strong rebound after a weak 2018.

OECD Europe

European oil demand declined by 60 kb/d y-o-y in 3Q18 and is estimated to have contracted by 105 kb/d in 4Q18. Naphtha is largely responsible for the drop, declining by 150 kb/d y-o-y in 4Q18.





German oil demand declined by 155 kb/d in 3Q18 and is estimated to have dropped by 140 kb/d in 4Q18, on very low naphtha and gasoil deliveries. In 3Q18, naphtha demand contracted by 75 kb/d and gasoil demand by 85 kb/d. Logistical constraints explain part of the decline with very low Rhine water levels restricting supplies of gasoil to Germany and Switzerland. Freight rates for barges on the Rhine reached an historical high on 30 November. Since then, water level have recovered somewhat and December data should show an improved supply situation.

German diesel demand has also been reduced by concerns about pollution and falling resale values of diesel vehicles. New European Union certification requirements introduced in September slowed car sales, which fell by 7.4% y-o-y in October, 9.9 % in November and 6.7% in December. For the year as a whole, car sales were down 0.2% and the share of the market claimed by diesel vehicles was 32%, down from 39% in 2017.

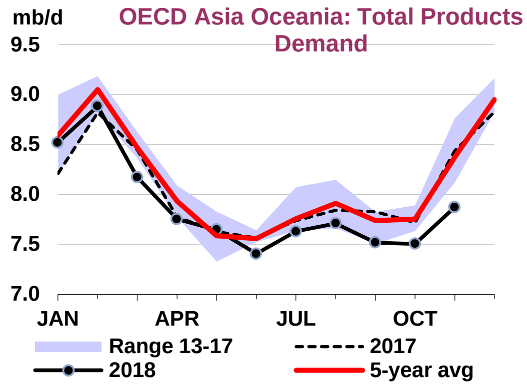
Oil demand in **France** rose by a hefty 200 kb/d in October, supported by gasoil deliveries. Provisional data point to growth of 40 kb/d in November, benefitting from strong gasoline demand. In **Italy**, oil demand rose by 20kb/d in October and 30 kb/d in November, according to preliminary data.

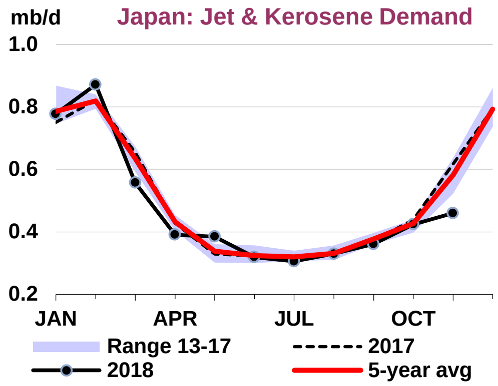
Overall, European oil demand fell by 60 kb/d y-o-y in 3Q18 and is estimated to have declined by 105 kb/d in 4Q18. When final data are received, they will likely show demand to have been stagnant in 2018, but a 90 kb/d rebound is expected in 2019.

OECD Asia Oceania

Oil demand in OECD Asia Oceania declined by 180 kb/d y-o-y in 3Q18. Preliminary data point to a large drop of 270 kb/d in 4Q18.

Japanese oil demand fell by 100 kb/d y-o-y in 3Q18, on lower deliveries of almost all products and there is likely to have been a similar drop (of 105 kb/d) in 4Q18. Demand declined by 300 kb/d in November, on weak kerosene and gasoil deliveries. There were a series of natural disasters in 3Q18, which affected economic activity and hampered transport. Higher than normal temperatures also reduced kerosene demand for heating. In November, Japanese air passenger traffic rose by 1.5% y-o-y but kerosene deliveries remained 160 kb/d below the previous year. Total oil demand in Japan fell by 100 kb/d in 2018 and a further 70 kb/d decline is expected in 2019.





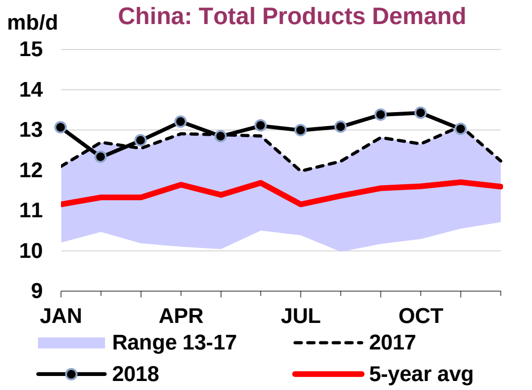
Korean demand declined by 90 kb/d in 3Q18 and is estimated to have dropped by 190 kb/d in 4Q18. The economy is very dependent on exports and has started to suffer from a trade slowdown. The government announced fuel tax cuts for six months in September to spur economic activity. In **Australia**, oil demand rose by 15 kb/d y-o-y in both 3Q18 and 4Q18 on strong diesel deliveries. Gasoline demand is contracting on high prices. Australian demand rose by 45 kb/d y-o-y in October, supported by diesel deliveries.

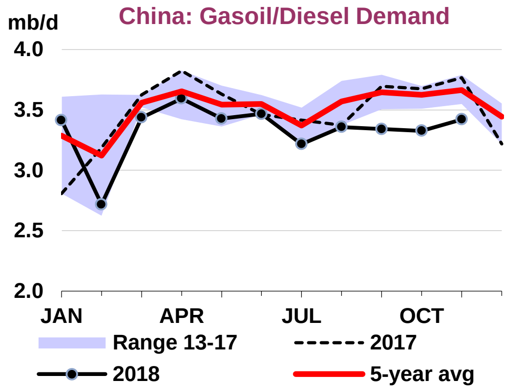
For OECD Asia Oceania as a whole, oil demand is expected to contract by 120 kb/d in 2018 and by 95 kb/d in 2019, with trade tensions a major risk factor.

Non-OECD

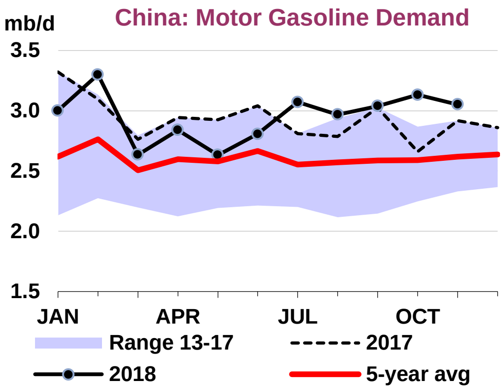
China

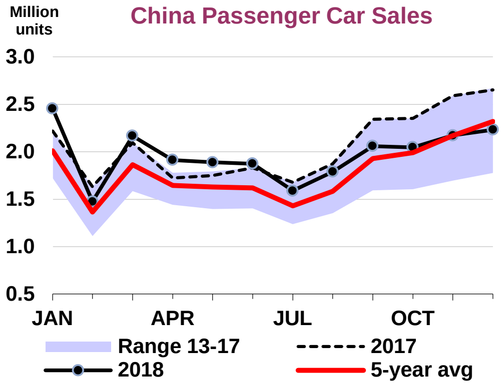
China's apparent oil demand in November posted a small y-o-y decline of 70 kb/d. Included in this number was an increase for gasoline of 135 kb/d but a big fall for gasoil of 345 kb/d.





Gasoil apparent demand declined by 190 kb/d in 3Q18 and 125 kb/d in 4Q18, due to the economic slowdown (see *Fundamentals*). China's official PMI fell to 49.4 in December, pointing to a contraction in factory activity. It was the weakest reading since February 2016. Diesel demand is also penalised by environmental policies and the promotion of a more "qualitative" economic development.





Motor gasoline apparent demand increased by 150 kb/d in 3Q18 and 265 kb/d in 4Q18, but it could suffer in 2019 due to lower car sales and lower utilisation. Car sales in December posted their sixth consecutive month of y-o-y decline, falling by 15.8%. Overall, in 2018, they contracted by 4.3%, the first annual decline since 1991. When sales slowed during 2015, the government cut sales taxes in half for cars with smaller engines. This tax break ended in January 2018, which partly explains the recent weakness. In addition, car ownership may have reached a saturation point in some cities and Chinese people are using improved public transport services and ride-sharing schemes. Finally, a government crackdown on peer-to-peer lending platforms, which are important in car sales financing, has also played a part.

Kerosene demand rose strongly in 3Q18 by 145 kb/d y-o-y but growth is thought to have slowed to 60 kb/d in 4Q18. Hitherto, kerosene has been supported by China's buoyant aviation sector. However, China's growth in domestic revenue passenger kilometres (RPK) slowed to 7.2% in November, from 12.2% in October.

Total oil demand growth in China is estimated at 475 kb/d in 2018, and growth of similar levels is expected this year. The recent sharp slowdown in economic activity is, however, a significant downward risk.

China: Demand by Product

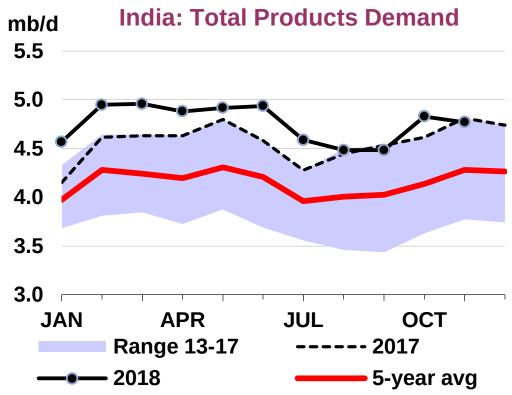
(thousand barrels per day)

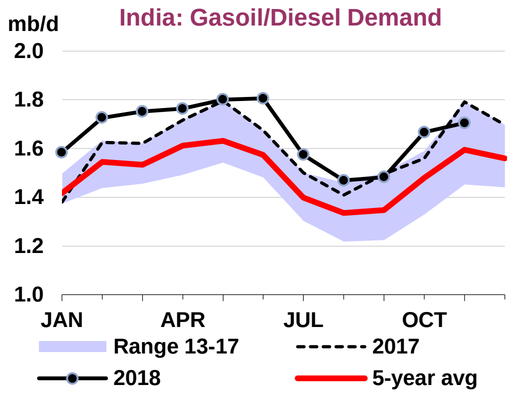
	Demand			Annual Chg (kb/d)		Annual Chg (%)	
	2017	2018	2019	2018	2019	2018	2019
LPG & Ethane	1,523	1,641	1,749	118	108	7.8	6.6
Naphtha	1,171	1,230	1,337	59	106	5.1	8.6
Motor Gasoline	2,927	2,957	3,030	30	73	1.0	2.5
Jet Fuel & Kerosene	710	794	852	84	58	11.8	7.3
Gas/Diesel Oil	3,473	3,358	3,396	-115	38	-3.3	1.1
Residual Fuel Oil	437	426	438	-10	12	-2.4	2.8
Other Products	2,336	2,643	2,716	307	74	13.1	2.8
Total Products	**12,576**	**13,049**	**13,518**	**473**	**469**	**3.8**	**3.6**

India

Indian oil demand growth is believed to have slowed to 130 kb/d y-o-y in 2H18 from a much stronger pace of 300 kb/d in 1H18. In November, demand actually contracted by 40 kb/d, with gasoil demand down by 90 kb/d. However, gasoline demand grew by 55 kb/d.

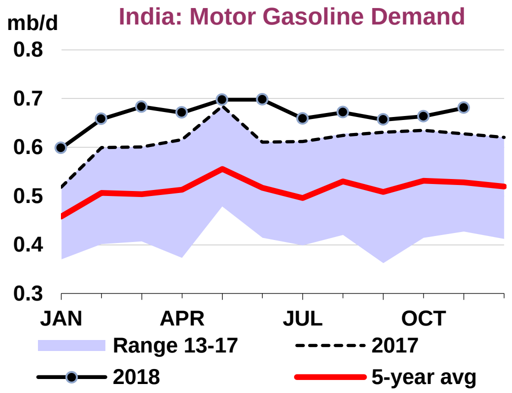
Rising demand for jet fuel, boosted by the booming aviation sector, has offset the fall in kerosene used by households for heating and cooking. Domestic air traffic (RPK) grew by 13.3% in November, having been 15% in October.

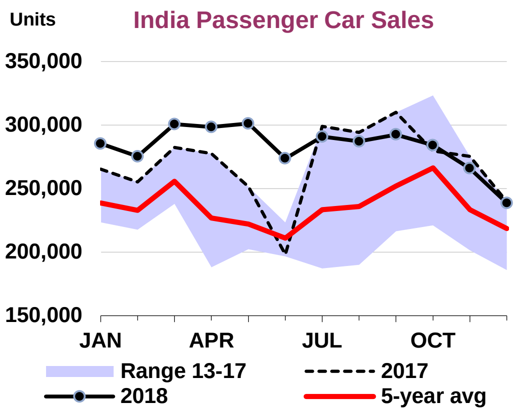




Gasoline demand rose by 55 kb/d y-o-y in November, supported by the ever-growing car fleet. Sales in 2H18 appear to be roughly in line with last year, after posting strong y-o-y growth in 1H18. The y-o-y growth in car sales in the first half of 2018 was inflated by low sales in 1H17, as consumers awaited a change in taxes. Tighter financial conditions may, however, have contributed to a small slowdown at the end of 2018. Meanwhile, sales of trucks and buses grew by 5.7% in November.

For India, total oil demand growth accelerated to 215 kb/d in 2018, from 125 kb/d in 2017. We expect the strong growth seen in 2018 to accelerate to 240 kb/d in 2019.





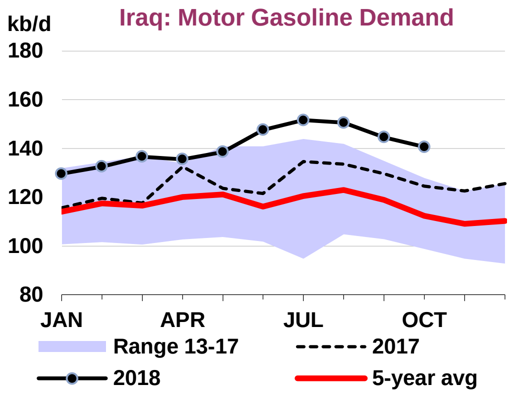
India: Demand by Product

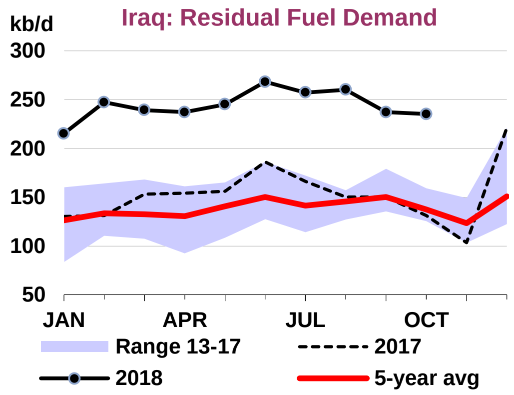
(thousand barrels per day)

	Demand			Annual Chg (kb/d)		Annual Chg (%)	
	2017	2018	2019	2018	2019	2018	2019
LPG & Ethane	740	785	822	45	38	6.0	4.8
Naphtha	283	314	326	31	12	10.9	3.7
Motor Gasoline	615	669	704	54	35	8.8	5.3
Jet Fuel & Kerosene	242	248	266	6	18	2.7	7.3
Gas/Diesel Oil	1,605	1,677	1,751	73	73	4.5	4.4
Residual Fuel Oil	145	143	149	-2	5	-1.2	3.8
Other Products	938	947	1,004	8	57	0.9	6.0
Total Products	**4,568**	**4,783**	**5,021**	**215**	**238**	**4.7**	**5.0**

Other Non-OECD

Iraq's oil demand is rising strongly, increasing by 135 kb/d y-o-y in October, led by fuel oil, gasoil and gasoline. Crude oil used directly in the power sector is the exception, which was only 30 kb/d in October, and 50 kb/d lower y-o-y. The power sector is increasingly turning to fuel oil and natural gas imported from Iran. Indeed, fuel oil demand rose by 105 kb/d y-o-y in October.



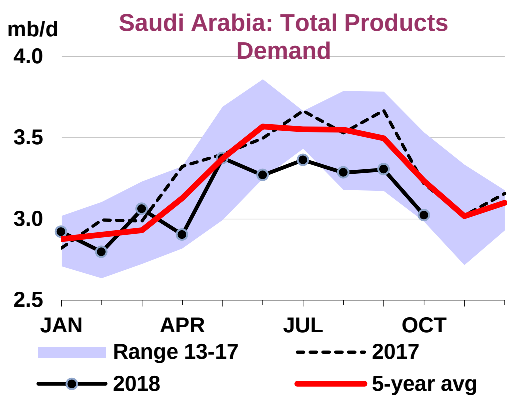


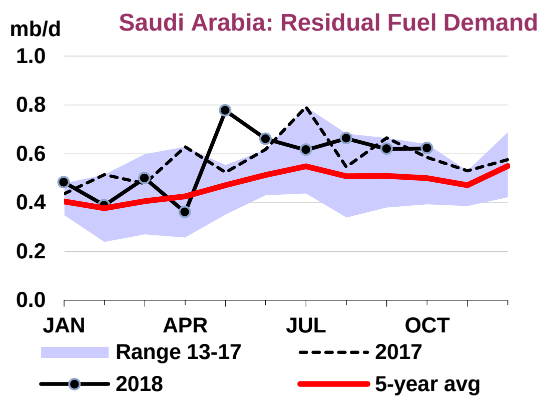
Non-OECD: Demand by Region

(thousand barrels per day)

	Demand			Annual Chg (kb/d)		Annual Chg (%)	
	1Q18	2Q18	3Q18	2Q18	3Q18	2Q18	3Q18
Africa	4,331	4,285	4,158	-9	-30	-0.2	-0.7
Asia	26,488	27,048	26,615	648	971	2.5	3.8
FSU	4,481	4,634	4,941	122	213	2.7	4.5
Latin America	6,330	6,355	6,466	-104	-98	-1.6	-1.5
Middle East	8,110	8,452	8,700	-222	-178	-2.6	-2.0
Non-OECD Europe	734	744	774	-7	11	-0.9	1.4
Total Products	**50,474**	**51,518**	**51,654**	**429**	**888**	**0.8**	**1.7**

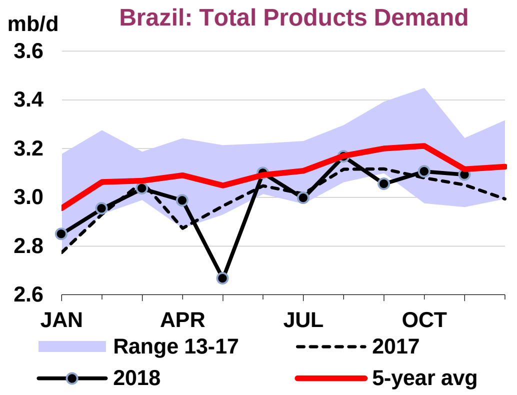
Saudi Arabian oil demand continues to be extremely weak, declining by 195 kb/d y-o-y in October, with sharp drops in gasoil, crude oil and kerosene demand. Gasoil demand declined by 55 kb/d y-o-y, on slowing economic activity and a reduction in its use in power generation. Crude oil direct use was reported at 335 kb/d in October, a decline of 75 kb/d y-o-y.

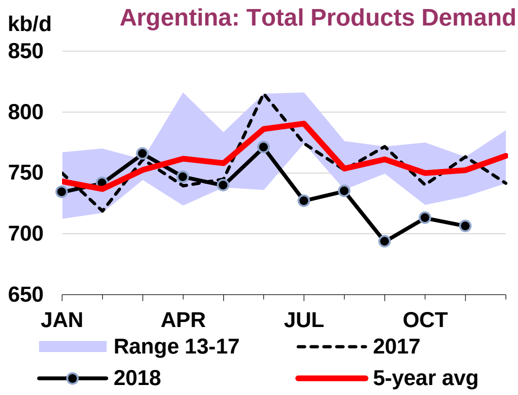




We expect Saudi demand to have declined by 150 kb/d in 2018, after a drop of 25 kb/d in 2017. Demand should return to growth at a pace of around 90 kb/d in 2019, supported by higher government expenditure.

Argentina's oil demand dropped by 55 kb/d in November, reflecting the brutal slowdown in economic activity and the impact of a major currency depreciation. For 3Q18, demand was 50 kb/d below last year's level. Demand is thought to have contracted by 20 kb/d in 2018 and is likely to be the same this year.





Brazilian oil demand rose by 40 kb/d y-o-y in November, with gasoil increasing by 20 kb/d and gasoline by 55 kb/d. Domestic air traffic rose by 5.3% y-o-y in November after growth of 3.4% in October. Overall, Brazilian demand is projected to rise by only 5 kb/d in 2018 with growth increasing to 35 kb/d in 2019. New government policies could change the outlook.

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	6,848	6,827	158	303	2.4	4.6
Naphtha	2,962	2,940	2,928	128	184	4.6	6.7
Motor Gasoline	11,342	11,246	11,592	-172	252	-1.5	2.2
Jet Fuel & Kerosene	3,264	3,334	3,463	186	209	5.9	6.4
Gas/Diesel Oil	14,274	14,944	14,664	-6	-82	0.0	-0.6
Residual Fuel Oil	4,783	4,898	4,902	-144	-69	-2.9	-1.4
Other Products	7,042	7,308	7,279	279	92	4.0	1.3
Total Products	**50,474**	**51,518**	**51,654**	**429**	**888**	**0.8**	**1.7**

Pakistan's oil demand declined by 115 kb/d y-o-y in November. Fuel oil deliveries dropped by 55 kb/d, reflecting the switch to LNG in the power sector. Gasoil demand fell by 60 kb/d.

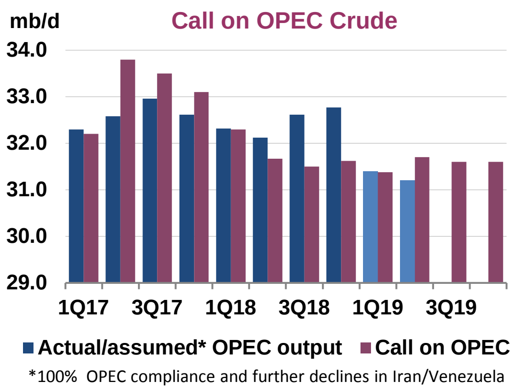
Russian oil demand rose by a strong 180 kb/d in November, supported by robust deliveries of almost all products. Fuel oil demand rose by 65 kb/d y-o-y. Jet kerosene demand rose by 25 kb/d during the month, in line with very strong growth in passenger air traffic. Russia RPK rose by 13.8% y-o-y in November, after a growth of 11.7 % in October.

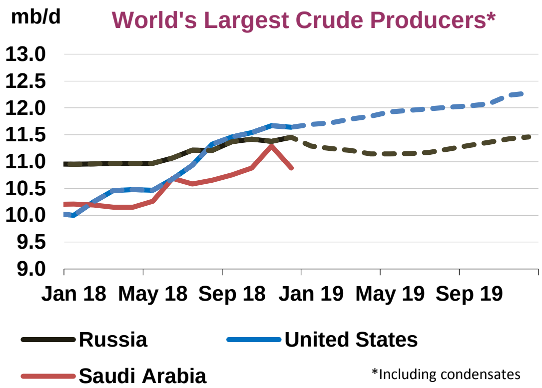
Indonesia's gasoil demand baseline has been revised up by roughly 80 kb/d for every year from 2012 to take into account new data reflecting power sector demand. This change had little impact on historical growth figures.

SUPPLY

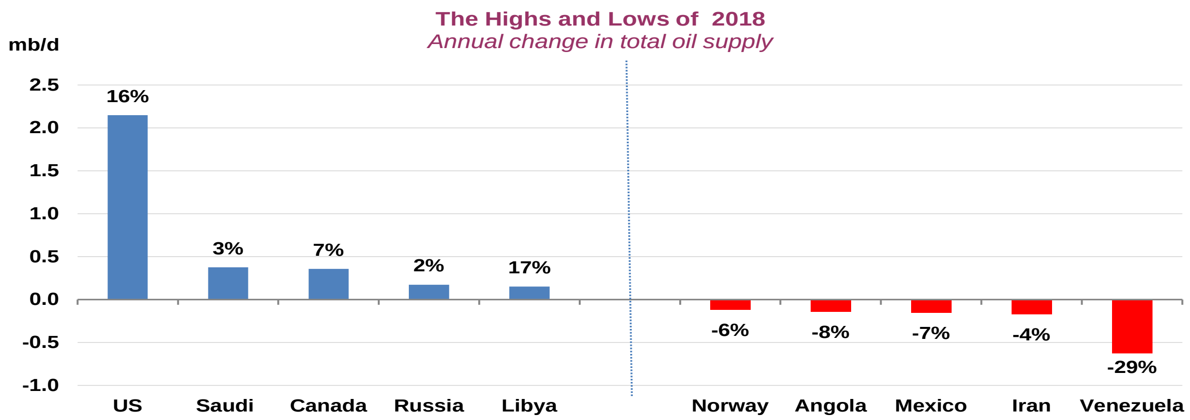
Summary

A sharp fall in Saudi Arabia's output ahead of new OPEC/non-OPEC supply cuts, further unplanned outages in Iran and Libya and a seasonal drop in biofuels wiped 950 kb/d off global oil production in December. OPEC led the decline, with crude oil production tumbling 590 kb/d month-on-month (m-o-m) to 32.39 mb/d. However, global oil supply of 100.6 mb/d was still 1.7 mb/d above May, when Vienna Agreement producers began to turn up the taps to satisfy world demand and the US announced it would renew sanctions on Iran. Moreover, compared with a year ago, total oil supply was up a whopping 2.8 mb/d. The US stood 2 mb/d above 2017, Saudi Arabia was up 680 kb/d and Russia, at record levels, was 465 kb/d higher. Plentiful supply from the world's top three producers during the past several months contributed to a substantial build-up in oil inventories in 2018 and led OPEC, Russia and nine other non-OPEC countries to agree to remove 1.2 mb/d from world markets as of January.





They have their work cut out. To reach 100% compliance with pledged cuts of 800 kb/d, the 11 OPEC members party to the deal will actually have to decrease production by 900 kb/d in January. For their part, non-OPEC countries will have to cut 370 kb/d to reach full compliance. Any reductions by the Vienna Agreement countries will be supplemented by Canada, where the Albertan government imposed mandatory cuts of 325 kb/d from January. If the producers deliver on their promises, the market could return to balance in 1H19. The call on OPEC crude falls to 31.4 mb/d in 1Q19 and rises to 31.7 mb/d in 2Q19. OPEC and its allies are scheduled to meet on 17-18 April to review the Vienna Agreement that currently extends through June.



With Saudi Arabia planning still deeper cuts in January and February and Russia expected to curb supply, the US looks set to maintain its status as the world's biggest crude supplier throughout 2019. Indeed, after posting growth in 2018 of nearly 1.6 mb/d, US crude production is poised for a gain of nearly 1.1 mb/d this year. In terms of total oil, staggering US growth of 2.1 mb/d in 2018, the highest ever recorded by any country, far offset unplanned declines in Venezuela - at 625 kb/d, one of its largest annual losses – Iran, Mexico, Angola and Norway. This year, total US oil supply is expected to expand by 1.3 mb/d and account for 81% of non-OPEC growth of 1.6 mb/d. In 2018, the US drove 84% of non-OPEC's growth of 2.6 mb/d.

OPEC / Non-OPEC Output[1]

(million barrels per day)

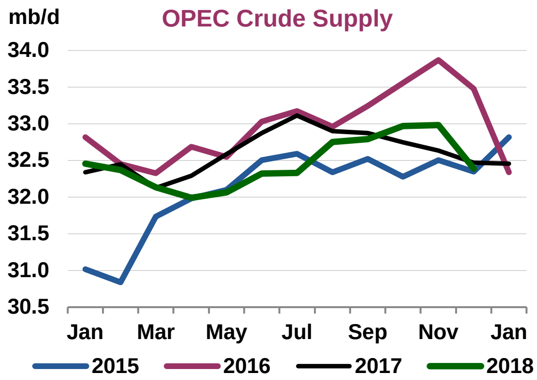
	Nov 2018 Supply	Dec 2018 Supply	Supply Baseline[2]	Agreed Cut	New Target	Cut Needed for 100% Compliance	Sustainable Production Capacity[6]	Spare Capacity vs Dec Supply[7]
Algeria	1.07	1.06	1.06	0.032	1.03	-0.04	1.07	0.01
Angola	1.44	1.48	1.53	0.047	1.48	0.00	1.58	0.10
Congo	0.33	0.34	0.33	0.010	0.32	-0.03	0.34	0.00
Ecuador	0.52	0.51	0.52	0.016	0.51	0.00	0.54	0.03
Equatorial Guinea	0.12	0.12	0.13	0.004	0.12	0.00	0.13	0.01
Gabon	0.16	0.18	0.19	0.006	0.18	0.00	0.19	0.01
Iraq	4.60	4.70	4.65	0.141	4.51	-0.19	4.84	0.14
Kuwait	2.78	2.80	2.81	0.085	2.72	-0.08	2.92	0.12
Nigeria[3]	1.62	1.66	1.65	0.053	1.60	-0.06	1.72	0.06
Saudi Arabia	11.06	10.64	10.63	0.322	10.31	-0.33	12.04	1.40
UAE	3.33	3.26	3.17	0.096	3.07	-0.19	3.35	0.09
Total OPEC 11	**27.03**	**26.75**	**26.66**	**0.812**	**25.85**	**-0.90**		
Iran[4]	2.97	2.80					3.85	-
Libya[4]	1.11	0.99					1.07	0.08
Venezuela[4]	1.26	1.25					1.25	0.00
Qatar[5]	0.61	0.60					0.62	0.02
Total OPEC	**32.98**	**32.39**					**35.51**	**2.07**
Azerbaijan	0.80	0.79	0.80	0.020	0.78	-0.01		
Bahrain	0.21	0.21	0.22	0.005	0.21	0.00		
Brunei	0.11	0.11	0.11	0.003	0.11	0.00		
Kazakhstan	2.03	1.98	2.03	0.040	1.99	0.01		
Malaysia	0.72	0.73	0.70	0.015	0.68	-0.05		
Mexico	1.94	1.97	1.99	0.040	1.95	-0.02		
Oman	1.01	1.01	1.00	0.025	0.98	-0.03		
Russia	11.70	11.78	11.75	0.230	11.52	-0.27		
Sudan	0.07	0.07	0.07	0.002	0.07	0.00		
South Sudan	0.11	0.11	0.13	0.003	0.12	0.01		
Total Non-OPEC	**18.80**	**18.78**	**18.79**	**0.383**	**18.41**	**-0.37**		

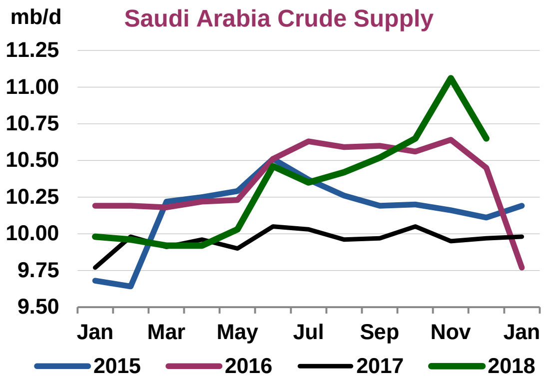
1 OPEC figures are crude oil only, Non-OPEC figures are total oil supply (including NGLs).
2 Based on Oct-2018 production, except for Azerbaijan and Kuwait based on Sept-2018 and Kazakhstan Nov-2018. Non-OPEC supply baseline based on IEA estimates.
3 Nigeria supply baseline based on IEA estimates, which exclude Akpo and Agbami condensates.
4 Iran, Libya, Venezuela exempt from cuts.
5 Qatar left OPEC on 1 Jan 2019.
6 Capacity levels can be reached within 90 days and sustained for an extended period.
7 Spare capacity excludes Iranian crude supply that is offline due to sanctions.

OPEC crude oil supply

Saudi Arabia's reduction from record rates and deeper unplanned losses in Iran and Libya cut OPEC crude output by 590 kb/d to 32.39 mb/d in December, the lowest level since July. The biggest m-o-m decline since January 2017, which came just before the start of the new Vienna Agreement, also wipes out much of the gains that followed a producers' pact in June to boost supply.

In January, output from OPEC is also likely to fall by a substantial amount as Saudi Arabia has signalled another sizeable reduction and as others move to comply with the supply cut deal. Lower crude production in December lifted OPEC's effective spare capacity to 2.07 mb/d.



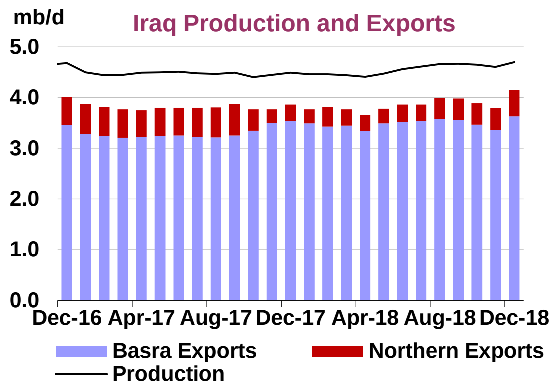


Saudi Arabia turned in the biggest decrease in December after it lowered output by 420 kb/d m-o-m to 10.64 mb/d, although it was up 670 kb/d on the previous year. Energy Minister Khalid al-Falih has said crude production will drop in January to 10.2 mb/d, actually below the new supply target. In December, shipments of crude oil fell by more than 800 kb/d to 7.4 mb/d, according to *Kpler* data. By February, Saudi exports to world markets are expected to be around 1 mb/d below November, when both production and exports were at record levels.

The Kingdom has meanwhile announced a slight increase in its oil reserves following an independent audit. The report put total proven oil reserves at 268.5 billion barrels, a touch higher than the previous official estimate of 266.3 billion barrels. The audit was part of Saudi Aramco's preparation for its eventual initial public offering. Only Venezuela, which is estimated to hold 303.2 billion barrels of reserves, outranks Saudi Arabia, but much of its oil is extra heavy, which is costly to extract. By contrast, Saudi Arabia is one of the world's lowest-cost oil producers at an average of $4/bbl.

Like Saudi Arabia, the **UAE** also cut supply, with output down 70 kb/d from record November levels to 3.26 mb/d, still nearly 400 kb/d above the previous year. **Kuwaiti** production edged up to 2.8 mb/d after exports recovered further. Supply in **Qatar**, which has now left OPEC, inched down to 600 kb/d in December. With effect from next month's *Report* it will be included in our non-OPEC estimates.

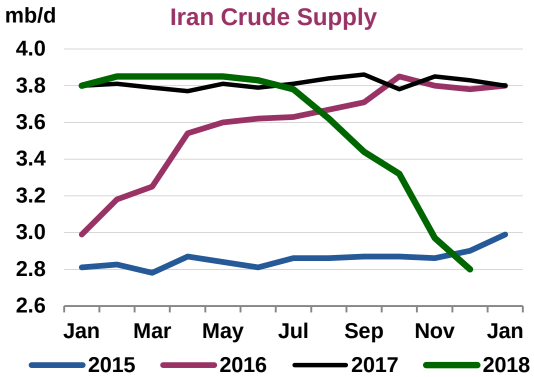
Iraq delivered the biggest increase in December, with output, including the Kurdistan Regional Government (KRG), rising 100 kb/d to a record 4.7 mb/d. Oil minister Thamer Ghadhban said Baghdad was fully committed to the Vienna Agreement and was taking steps in early January to curb output. During the last round of cuts, Iraq only reluctantly reduced production and by less than 50% of its commitment on average.

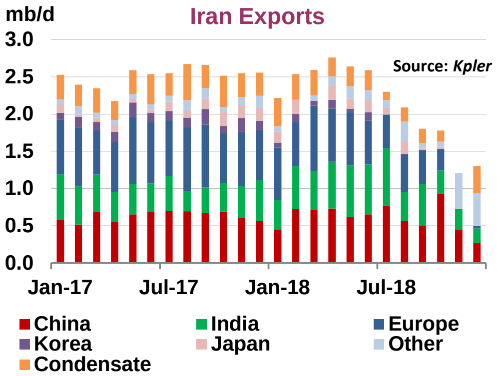


During December, however, oil sales surged to 4.15 mb/d, a level never seen before, as exports of Basra crude rose to an unprecedented 3.63 mb/d. Substantial quantities of Basra were pumped out of tanks in the Gulf, after rough weather curtailed loadings in November and forced crude into storage. The lion's share of Iraq's crude is shipped via its southern ports. As for the north, December marked the first full month of Kirkuk exports handled by Iraq's State Oil Marketing Organisation, with levels reaching 100 kb/d. The KRG sold roughly 400 kb/d.

Output from Iran fell 170 kb/d m-o-m to 2.8 mb/d, down 1.03 mb/d on December 2017 as US sanctions hit harder. Production and exports sank to the lowest level since 2015, with shipments of crude oil falling to roughly 940 kb/d, according to tanker tracking. Many of Iran's tankers have switched off their transponders in an effort to skirt US sanctions, thus tracking oil sales has become more difficult.

Total oil sales appeared to rise slightly m-o-m to more than 1.3 mb/d after shipments of condensates surged to 360 kb/d in December from zero the previous month. For the first time since June, Korea, granted a waiver by the US, lifted condensates. Korea can buy up to 200 kb/d of Iranian oil under the sanctions waiver.

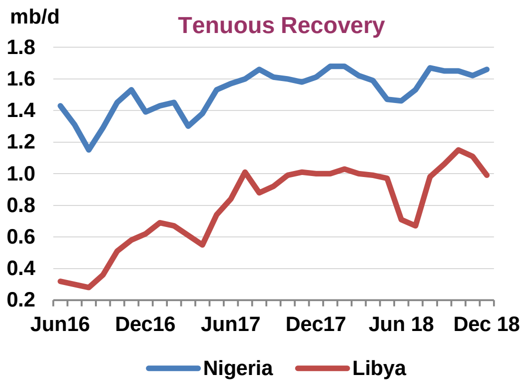




As for crude oil, Turkey, which also secured a waiver, returned to buy while China and India continued to lift, albeit at reduced volumes, in December. Shipments to Japan and Taiwan remained at zero although Japan was expected to resume loadings in January. China and India loaded 270 kb/d and 190 kb/d, respectively. Some Iranian volumes are assumed to be moving into bonded storage in China. At the end of December, the National Iranian Oil Co (NIOC) had stored roughly 14 mb of oil on seven tankers moored off Kharg Island. Exports could recover slightly in January if the eight buyers granted waivers load higher volumes.

Libyan crude supply fell 120 kb/d to 990 kb/d after militia stormed the El Sharara field and shut in more than 300 kb/d of production. At the start of December, the field, Libya's largest, had been pumping at full capacity of around 315 kb/d, pushing total output briefly above 1.2 mb/d. The neighbouring El Feel field continues to produce at around 70 kb/d. With El Sharara still shut, the west coast Zawiya refinery is being supplied with Mellitah and Sarir crude.

In **Nigeria**, output crept up to 1.66 mb/d in December, 50 kb/d above a year ago. The launch of Total's 200 kb/d Egina project in early January will lift crude capacity towards 1.8 mb/d and provide a new source of medium sweet crude that is rich in gasoil and distillates. Egina is the first substantial deepwater field to come online since 2012 when Total launched the Usan field.



Output in **Angola** rose to 1.48 mb/d in December but was down 110 kb/d on a year ago, as declines at mature fields continue. An improvement in commercial terms has sparked more interest from international oil companies, with BP and ExxonMobil signing new deals with Sonangol. BP has advanced further development of deepwater Block 18 and extended the duration of its Greater Plutonio production license in the same block. It has also agreed to come to a final investment decision on developing the Platina field. Exxon has secured an initial exploration deal. Eni has meanwhile started production from the 20 kb/d Vandumbu field that is expected to lift output at its West Hub development to 170 kb/d in 1Q19. Output from other African producers held broadly steady m-o-m. Production in **Algeria** dipped to 1.06 mb/d and was unchanged in Equatorial Guinea at 120 kb/d. Supply edged up in **Congo** to 340 kb/d. In **Gabon**, which thwarted a military coup in early January, production was slightly higher at 180 kb/d.

Output in **Venezuela** inched down to 1.25 mb/d in December, 360 kb/d below a year ago. As production sags and the economy sinks further into crisis, Petroleos de Venezuela is lining up investment from two little known companies. US Erepla plans to spend up to USD 500 million to boost output at three oilfields in exchange for crude, but the company must secure an exemption from US sanctions. French company Maurel & Prom will invest USD 400 million to raise output at the Petroregional del Lago venture that operates in Lake Maracaibo. It remains to be seen whether the companies can deliver higher production. Output from **Ecuador** slipped to 510 kb/d.

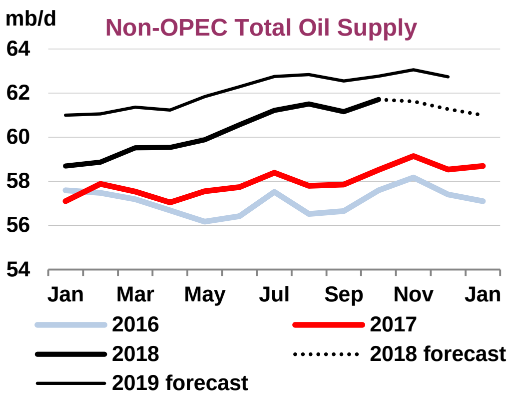
Non-OPEC

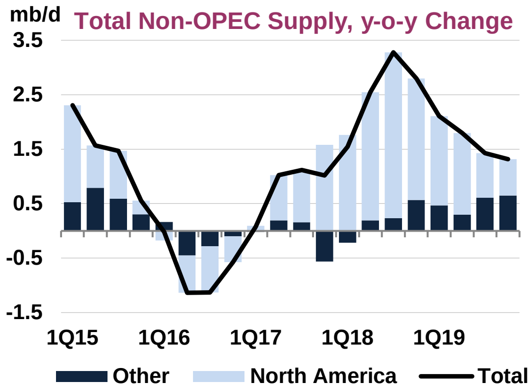
Non-OPEC supply fell by 360 kb/d in December to 61.2 mb/d, in large part due to seasonally lower biofuel output. Record high Russian production, a rebound in Brazil and strong gains in the US underpinned robust year-on-year gains of around 2.7 mb/d. For 2018 as a whole, non-OPEC supply surged by 2.6 mb/d, an all-time record high. The US accounted for 2.1 mb/d of the increase, while Canada expanded by 360 kb/d, Russia by 170 kb/d, global biofuels by 160 kb/d and Kazakhstan by 85 kb/d. The biggest output losses last year came from Mexico (-155 kb/d) and Norway (-120 kb/d). Declines in Chinese crude oil output slowed to 85 kb/d, from 140 kb/d in 2017.

Non-OPEC Supply
(million barrels per day)

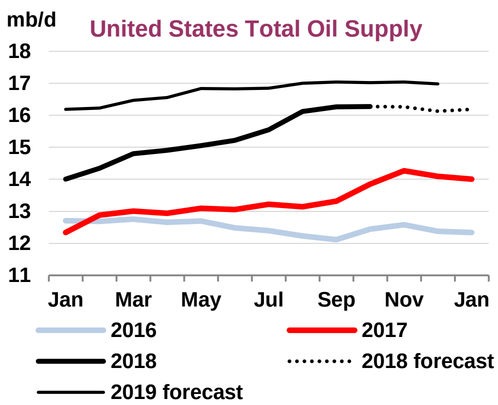
	2017	1Q18	2Q18	3Q18	4Q18	2018	1Q19	2Q19	3Q19	4Q19	2019
Americas	**20.3**	21.7	22.2	23.3	23.5	**22.7**	23.4	23.7	24.1	24.1	**23.8**
Europe	**3.5**	3.6	3.3	3.2	3.4	**3.4**	3.4	3.3	3.3	3.4	**3.4**
Asia Oceania	**0.4**	0.4	0.4	0.4	0.4	**0.4**	0.5	0.5	0.5	0.5	**0.5**
Total OECD	**24.2**	25.7	25.9	27.0	27.3	**26.5**	27.2	27.5	27.9	28.1	**27.7**
Former USSR	**14.3**	14.4	14.4	14.6	14.8	**14.6**	14.7	14.5	14.6	14.8	**14.6**
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	3.8	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	**1.4**	1.5	1.5	1.4	1.4	**1.4**
Total Non-OECD	**29.0**	28.9	29.0	29.0	29.4	**29.1**	29.3	29.1	29.3	29.6	**29.3**
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	2.8	3.0	2.5	**2.6**	2.3	2.8	3.1	2.7	**2.7**
Total Non-OPEC	**57.9**	59.0	60.0	61.3	61.5	**60.5**	61.1	61.8	62.7	62.8	**62.1**
Annual Chg (mb/d)	**0.8**	1.5	2.6	3.3	2.8	**2.6**	2.1	1.8	1.4	1.3	**1.6**
Changes from last OMR (mb/d)	**-0.05**	-0.06	-0.04	-0.01	0.35	**0.06**	0.28	0.23	0.19	0.00	**0.18**

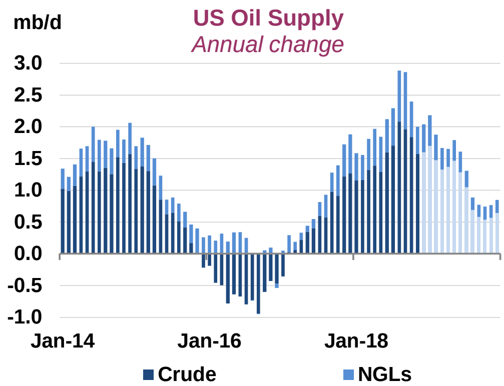
Non-OPEC supply growth is expected to slow to 1.6 mb/d in 2019. Production is already set to see a marked decline in January, when the Vienna Agreement output cuts as well as mandatory production curtailments in Alberta take effect. Growth continues to be dominated by the US, even as the pace slows to around 1.3 mb/d. Other gains will come from Brazil, where a number of new production units are on track to ramp up. Mexico and Norway remain the largest sources of declines next year, as new projects fail to offset losses from mature fields.





US oil supply held steady at around 16.3 mb/d in October, as a drop in NGL output offset higher crude supply. Crude production rose by 80 kb/d m-o-m, to 11.54 mb/d, led by New Mexico (+33 kb/d), North Dakota (+31 kb/d) and Colorado (+22 kb/d). Texas rose by 18 kb/d, its smallest increase in 10 months, while Gulf of Mexico output fell by 29 kb/d to 1.74 mb/d. NGL output eased by 51 kb/d from September's record high, but at 4.58 mb/d stood 560 kb/d above a year ago. Crude oil production was up 1.8 mb/d on a year ago. For 2018 as a whole, US oil supply grew by a record 2.1 mb/d, 1.6 mb/d of which was crude oil and 560 kb/d NGLs.

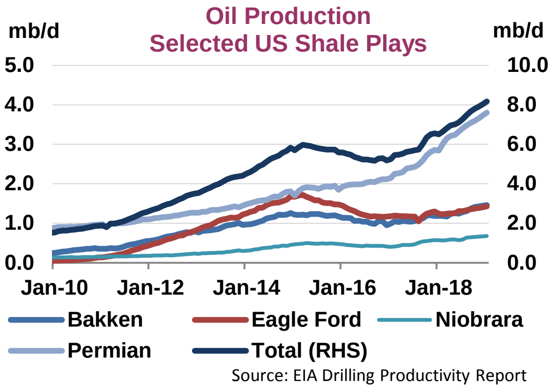


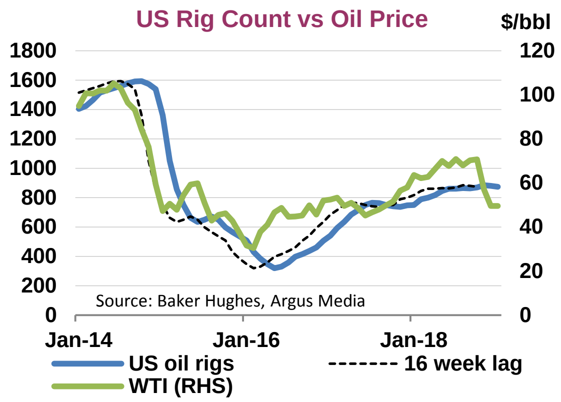


US oil supply growth is set to slow during 2019, due to increasing base decline and as shale producers moderate the pace of expansion following a near 40% fall in crude prices in 4Q18. The Energy Information Administration's *Drilling Productivity Report (DPR)* estimates that the base decline across major US shale basins reached 530 kb/d by January, 100 kb/d higher than a year ago. Output from new wells still exceeds this level, however, by around 130 kb/d per month at the start of the year.

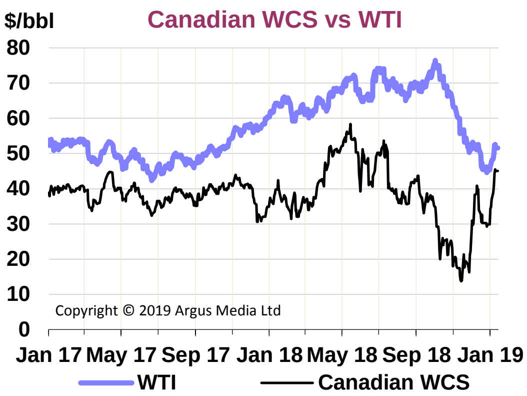
US oil producers are adjusting plans following the latest price drop. WTI fell by $31/bbl from the start of October to a low of $45/bbl on 21 December. It has since risen more than $6/bbl to just above $50/bbl, the level at which some producers were basing their 2019 spending. Activity levels normally lag price moves by around four months, and after holding steady through most of 4Q18 the number of US oil rigs dropped in early January. According to Primary Vision data, the number of fracking crews active in US shale oil plays has also taken a hit. By mid-January, there were 430 crews active in the US, 46 less than only two months earlier. According to the same data, the Permian Basin frac spread count has decreased from 192 in June 2018 to 140 by January 2019, representing a 27% decline.

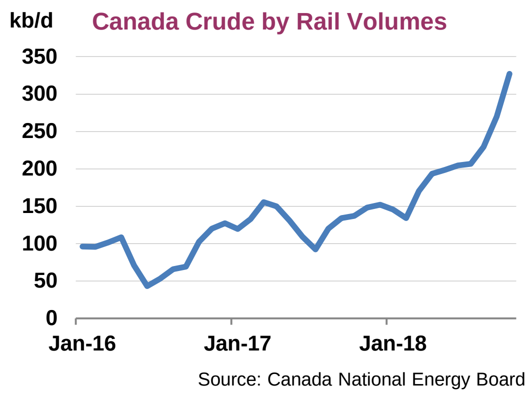
US supply growth is nevertheless expected to remain at a healthy 1.3 mb/d year-on-year (y-o-y) in 2019. Of this, crude oil production is forecast to be 1.1 mb/d higher, led by continued growth in the Permian. According to the *DPR*, Permian oil output reached 3.8 mb/d by January, up nearly 1 mb/d on one year ago.



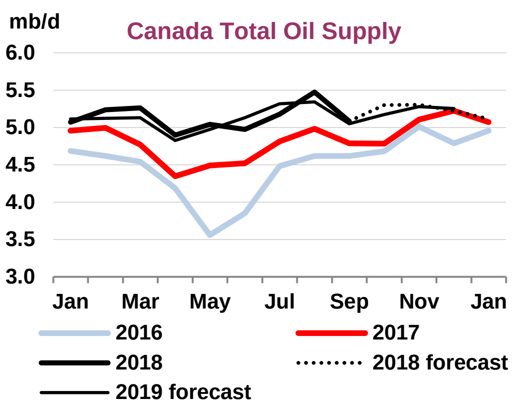


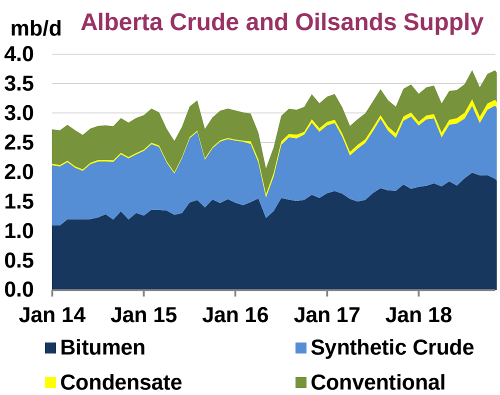
Canadian oil production is set to fall sharply from January, when mandatory production cuts take effect. Faced by record discounts for its crude of more than $50/bbl and brimming inventories, Alberta announced it would mandate temporary production cuts of as much as 325 kb/d for an initial period of three months (see *Alberta orders mandatory output cuts to shore up domestic crude prices* in the December 2018 *Report*). Since the announcement, heavy-crude prices have surged. At the time of writing, Western Canadian Select (WCS) traded at a discount of just $7.90/bbl to West Texas Intermediate crude, the smallest gap in almost a decade and less than the cost of rail or most pipeline shipments to the US Gulf Coast. In October, the volume of crude exported by rail reached 327 kb/d.



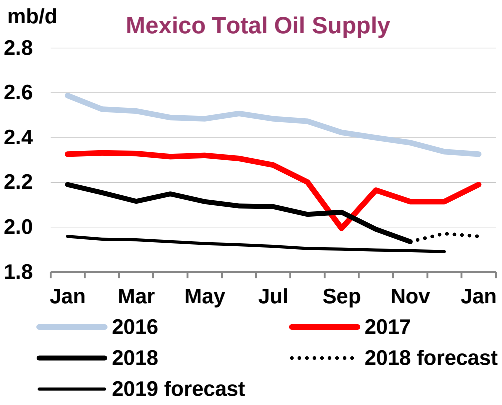


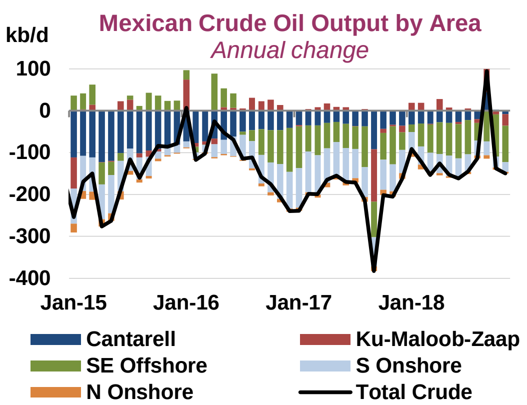
Despite announcements by several operators, including Cenovus, Canada Natural Resources Limited, MEG, Athabasca Oil Corp and Obsidian Energy that they were curtailing output during 4Q18 in response to the record WCS discounts, data from Alberta Energy Regulator show total oil production close to an all-time high above 3.7 mb/d in November. Production was up 60 kb/d on a month earlier, 310 kb/d above the year prior and significantly higher than our previous estimate. Total Canadian oil production for November is assessed at 5.3 mb/d, unchanged from October and up 200 kb/d y-o-y.





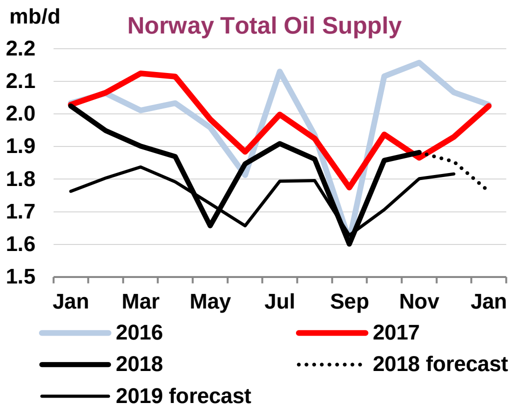
Mexican oil supply dropped another 55 kb/d in November, to 1.94 mb/d – its lowest in four decades. Production was 180 kb/d below a year earlier. For 2018 as a whole, oil output declined by nearly 160 kb/d, with Mexico providing the largest source of non-OPEC decline for a second consecutive year. A similar decline is expected this year. Final official data puts oil production at 1.99 mb/d in October, from which Mexico agreed to cut 40 kb/d under the Vienna Agreement.

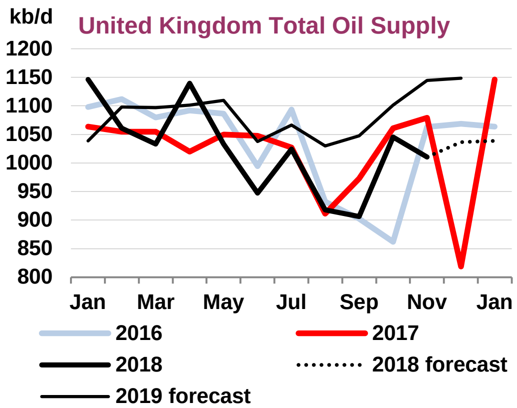




North Sea oil supplies held steady in November, at around 3 mb/d, as a small increase in Norway offset slightly lower output in the UK. Loading schedules published by Reuters show North Sea supplies falling marginally in December and more sharply in January, when shipments of Troll crude drop to the lowest since 2012 and Forties shipments remain subdued due to the shutdown of the Forties Pipeline System. Output was set to recover by February.

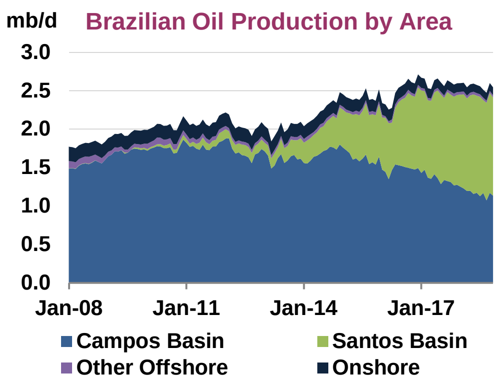
Norwegian oil production rose by 25 kb/d in November, to 1.88 mb/d, despite a brief shutdown of the Sture terminal due to a shipping accident. Output was 15 kb/d higher than a year ago and about 4% below the Norwegian Petroleum Directorate's (NPD) forecast from the start of the year. Indeed, NPD noted in its latest edition of Norwegian Continental Shelf that the decline in supply in 2018 exceeded its earlier forecast as newer fields proved more complex than expected, and as fewer-than-expected wells were drilled. NPD also lowered its forecast for 2019 output to 1.77 mb/d, down by 80 kb/d from the 2018 average, and largely in line with IEA projections.

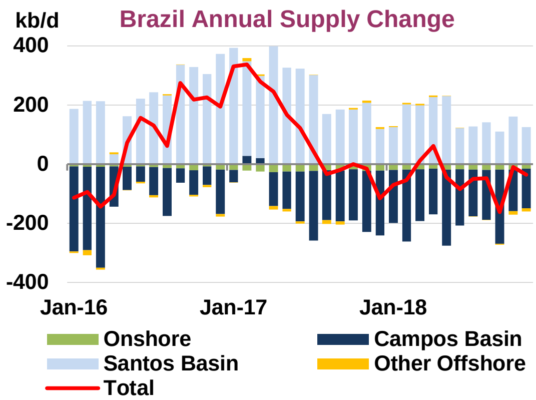




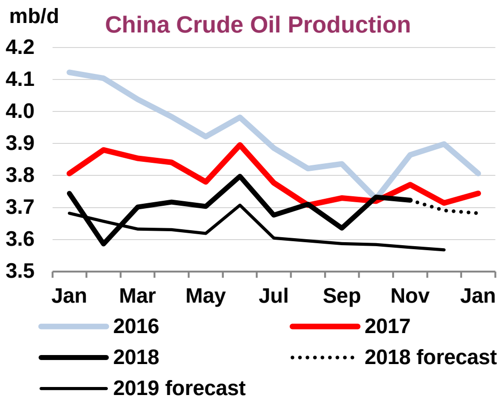
In contrast, **UK** oil output is expected to increase by 70 kb/d in 2019, to 1.1 mb/d, following a slight gain of 10 kb/d last year. In November, BP launched its Clair Ridge field that will add 120 kb/d of supplies at capacity. Equinor is also planning to start up the Mariner field in early 2019, adding an additional 55 kb/d of heavy crude oil production. In November, UK oil output dropped by 35 kb/d m-o-m, to just over 1 mb/d. Production was 70 kb/d below a year ago, mostly due to the shutdown of Buzzard, the UK's largest field, from mid-month.

Brazilian oil output dropped by 55 kb/d in November, to 2.67 mb/d, some 40 kb/d lower than a year earlier. The m-o-m decline stemmed primarily from the Saphinoa and Marlim fields, where output slumped by 45 kb/d and 30 kb/d, respectively, due to maintenance. Providing a partial offset, a second floating, production, storage and offloading vessel (P-75) started up in the Búzios field in the Santos Basin. Búzios output had ramped up to 84 kb/d by November, after first oil was reported in April. Tartaruga Verde, that started up in June, had reached 42 kb/d in the latest month. Production at Lula, that also saw a new unit enter operation in October, surpassed 900 kb/d for the first time, 63 kb/d higher than a year ago. Following a decline of 40 kb/d in 2018, Brazilian oil production is set to expand by 365 kb/d on average in 2019, the second biggest growth after the United States.





China's crude oil production held steady at around 3.7 mb/d in November, as an increase in production at Daqing was mostly offset by smaller declines elsewhere. Daqing produced roughly 635 kb/d on average in 2018, compared with 680 kb/d a year earlier, according to data published by the National Bureau of Statistics. Total crude output was 50 kb/d below a year earlier in November, significantly lower than the 130 kb/d annual declines seen during the first half of the year.

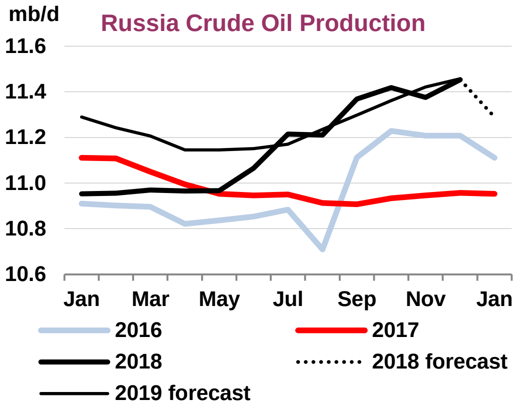


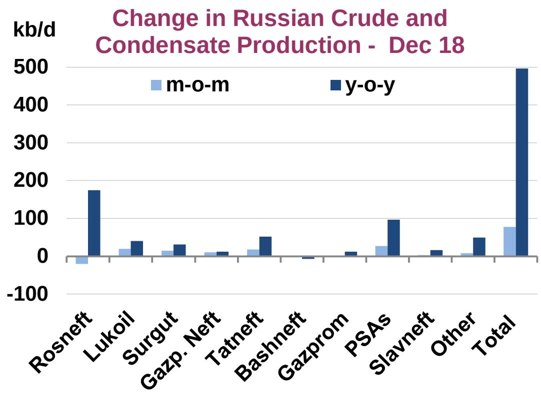
Elsewhere in Asia, **Malaysia**'s crude oil production rose another 24 kb/d in November to reach 654 kb/d, after maintenance had significantly curtailed output in August and September. **Indian** oil output dropped by 15 kb/d, to 815 kb/d in November. Over the first 11 months of 2018, Indian oil output was 17 kb/d below a year ago. Output is expected to fall by an additional 20 kb/d in 2019.

Russian crude and condensate production rose by 80 kb/d, to a new all-time high of 11.45 mb/d in December. Output gains were widespread, with only Rosneft seeing supplies decline m-o-m, by 21 kb/d, to 4 mb/d (excluding Bashneft). Energy Minister Alexander Novak said that oil production has fallen by more than 30 kb/d for the first ten days of January compared with October's level. Novak added that Russia plans a total cut of 50 kb/d this month compared with a pledge of a gradual 230 kb/d reduction.

Compared with a year ago, total Russian crude supply was up 500 kb/d in December, with Rosneft (+175 kb/d), Lukoil (+40 kb/d), Tatneft (+52 kb/d) and production sharing agreements (+97 kb/d) accounting for the bulk of the increase. Rosneft gains came even as the company chose not to launch commercial production at Tagulskoye, Kuyumbinskoye and Russkoye last year, all three of which were supposed to start up in 4Q18. The projects are being deferred to 2019-2020. Instead, gains came from the Suzun, East-Messoyakha, Yurubcheno-Tokhomskoye and Kondinskoye fields that have ramped up over the course of the year and from increased development drilling at brownfields, including

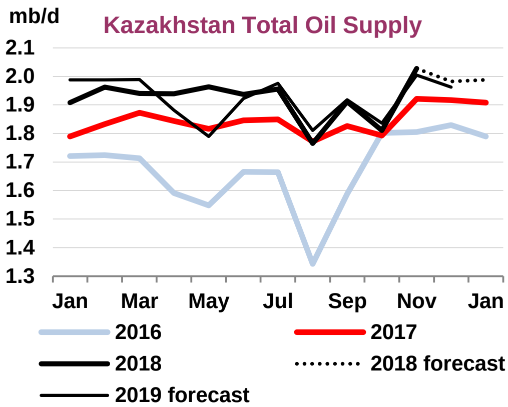
Yuganskneftegaz, the company's largest asset. According to Rosneft's latest investor update, in the first nine months of 2018 development drilling increased by 5% y-o-y while the number of new wells commissioned increased by 13%. Gazprom Neft saw output only marginally higher than a year ago, despite a ramp-up of production from its East Messoyakha and Novy Port field. East Messoyakha produced 88 kb/d as of late December, exceeding its earlier production plan. Novatek could also see a return to growth during 2019, as the company launched oil production for the Yaro-Yakhinskoye field in West Siberia in December. The field, developed by the Arcticgas joint venture between Novatek and Gazprom Neft, has been producing gas and gas condensate since 2015 and will have the capacity to produce 24 kb/d of crude oil.

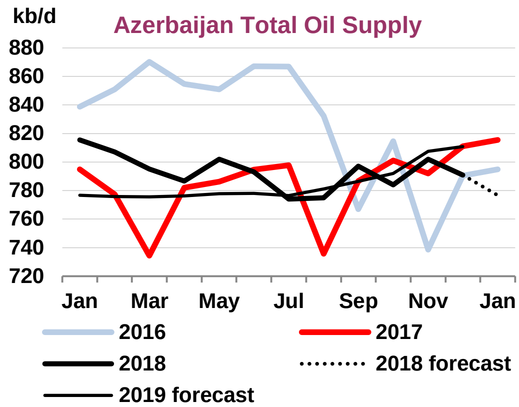




Russian crude exports outside the Former Soviet Union averaged 5.07 mb/d in December, up nearly 14% on the previous year, when output restrictions were still in place. The increase came largely from rising output at greenfield projects operated by Gazprom Neft and Lukoil as well as from the Exxon-led Sakhalin-1 PSA, which has been allowed to ramp up production after the project's new development scheme was approved.

Kazakhstan's oil output surged by 220 kb/d in November to 2.03 mb/d, a new record that will set the baseline from which Vienna Agreement cuts will be calculated. Kazakhstan agreed to reduce supplies by 40 kb/d. In October, output was curtailed by a sharp drop in Tengiz flows due to planned maintenance. In November, Tengiz production had recovered to 676 kb/d, up 170 kb/d m-o-m. Kashagan production stood at 320 kb/d, up 10 kb/d from October, while Karachaganak supplies held steady at around 260 kb/d. **Azeri** oil production eased by 11 kb/d in December 2018 to 790 kb/d. Azerbaijan pledged to cut output by 20 kb/d from its September production of 796 kb/d.

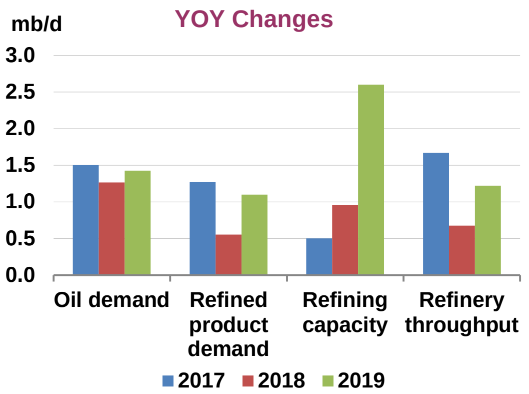


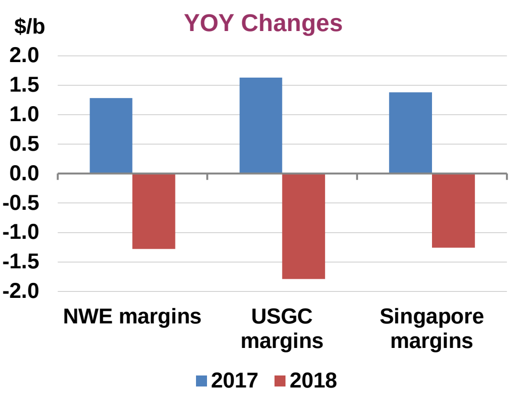


REFINING

Summary

The global refining industry is facing a challenging 2019. This year will see the addition of 2.6 mb/d of new capacity, the largest annual increase in our records. While some of it may not start commercial operations until next year, it is also the case that some of 2018's new capacity is only ramping up now, intensifying competition between established refineries. What this means for refining margins, however, is not entirely clear. In 2018, the average Brent crude price was $16/bbl higher year-on-year (y-o-y), and margins in the three key regional hubs saw the gains from 2017 erased. The 1 mb/d of net capacity additions in 2018 was twice as large as in 2017, but throughput increased only by 0.7 mb/d as refining activity declined in Mexico and Latin America. While total oil demand growth slowed from 1.5 mb/d to 1.3 mb/d, the growth rate for refined products halved, to just 0.6 mb/d.





In 2019, total oil demand growth will accelerate slightly versus 2018, but more importantly, *refined product* demand growth sees a significant rebound to 1.1 mb/d. This is close to our forecast of 1.2 mb/d growth in refining activity. However, this utilises only half of the new capacity coming on stream. If refining margins are supported by accommodating crude prices, utilisation rates will not decline. This should mean that product stocks will increase, which could be useful ahead of the IMO 2020 implementation. If average crude prices continue moving higher for the third consecutive year, refining margins may decline to levels that force slowdown in some refining regions.

Global Refinery Crude Throughput[1]
(million barrels per day)

	Oct 18	Nov 18	Dec 18	**4Q18**	**2018**	Jan 19	Feb 19	Mar 19	**1Q19**	**2Q19**	**2019**
Americas	18.7	19.5	20.0	**19.4**	**19.4**	19.4	18.8	19.6	**19.3**	**19.7**	**19.8**
Europe	11.7	11.9	12.3	**12.0**	**12.0**	12.4	12.1	11.8	**12.1**	**12.1**	**12.2**
Asia Oceania	6.6	7.0	7.5	**7.0**	**7.0**	7.4	7.3	7.0	**7.2**	**6.8**	**7.0**
Total OECD	37.0	38.4	39.9	**38.4**	**38.4**	39.3	38.3	38.3	**38.6**	**38.6**	**39.0**
FSU	6.8	7.1	7.2	**7.0**	**7.0**	7.0	6.9	7.0	**7.0**	**6.8**	**6.9**
Non-OECD Europe	0.6	0.6	0.6	**0.6**	**0.6**	0.6	0.6	0.6	**0.6**	**0.6**	**0.6**
China	12.3	12.2	12.3	**12.3**	**12.0**	12.4	12.3	12.3	**12.3**	**12.4**	**12.5**
Other Asia	10.6	10.6	10.7	**10.6**	**10.6**	10.8	10.7	10.3	**10.6**	**10.5**	**10.8**
Latin America	3.3	3.1	3.1	**3.2**	**3.5**	3.2	3.3	3.2	**3.3**	**3.3**	**3.3**
Middle East	8.3	8.1	8.1	**8.2**	**7.9**	8.0	8.1	8.0	**8.0**	**8.1**	**8.3**
Africa	2.2	1.9	2.2	**2.1**	**2.0**	2.1	2.1	2.1	**2.1**	**2.0**	**2.1**
Total Non-OECD	44.1	43.6	44.3	**44.0**	**43.7**	44.2	44.1	43.5	**43.9**	**43.8**	**44.4**
Total	81.1	82.1	84.2	**82.4**	**82.2**	83.5	82.3	81.8	**82.5**	**82.3**	**83.4**
Year-on-year change	*0.0*	*-0.9*	*0.3*	*-0.2*	***0.7***	*1.0*	*1.3*	*1.1*	*1.1*	*0.8*	***1.2***

[1] Preliminary and estimated runs based on capacity, know n outages, economic runcuts and global demand forecast

Margins

Even with Brent crude prices sliding from $62/bbl early in December to just above $50/bbl late in the month, refinery margins fell month-on-month (m-o-m) as global throughput hit a historical record high at 84.2 mb/d. While 4Q18 refining throughput overall was 200 kb/d lower y-o-y, refined product stocks built due to a seasonal slowdown in demand. The only indicative margin that ducked the otherwise perfectly synchronised move downward across all refining centres was the Maya-based coking margin in the US Gulf Coast (USGC), which strengthened m-o-m on weaker Maya differentials. The fall in other USGC margins was more measured compared to the decreases in Europe and Singapore.

IEA/KBC Global Indicator Refining Margins[1]

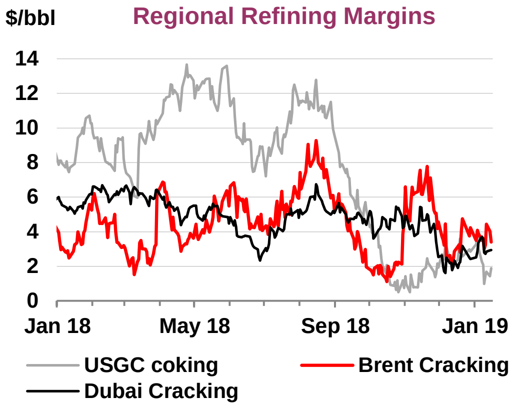
($/bbl)

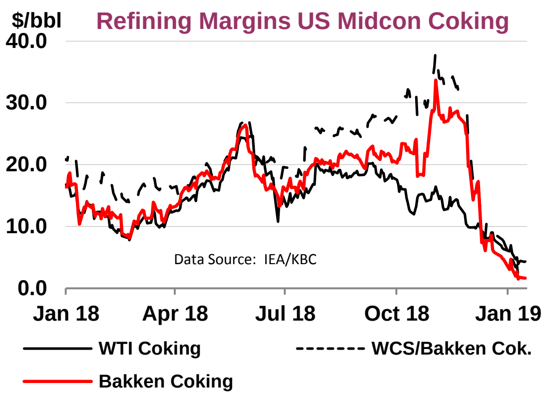
	Monthly Average				Change		Average for w eek ending:				
	Sep 18	Oct 18	Nov 18	Dec 18		Dec 18-Nov 18	14 Dec	21 Dec	28 Dec	04 Jan	11 Jan
NW Europe											
Brent (Cracking)	4.04	2.02	6.06	3.29	↓	-2.76	2.50	3.61	4.00	3.83	3.55
Urals (Cracking)	4.48	4.39	6.71	4.13	↓	-2.58	3.52	4.08	4.32	3.81	3.84
Brent (Hydroskimming)	-0.63	-0.93	3.96	1.00	↓	-2.96	0.14	0.91	1.34	1.31	1.18
Urals (Hydroskimming)	-0.71	0.89	3.80	1.09	↓	-2.71	0.48	0.63	0.91	0.55	0.76
Mediterranean											
Es Sider (Cracking)	6.10	5.13	9.43	6.51	↓	-2.91	5.61	6.87	7.19	6.48	6.38
Urals (Cracking)	4.74	5.18	8.88	5.93	↓	-2.95	5.24	6.36	6.32	5.61	5.17
Es Sider (Hydroskimming)	1.68	1.47	6.40	3.49	↓	-2.91	2.44	3.55	4.08	3.50	3.38
Urals (Hydroskimming)	-0.94	0.19	4.27	1.19	↓	-3.07	0.40	1.23	1.59	1.04	0.50
US Gulf Coast											
50/50 HLS/LLS (Cracking)	7.23	5.62	5.24	4.83	↓	-0.41	4.28	5.32	5.39	5.37	3.63
Mars (Cracking)	2.35	1.49	2.43	2.05	↓	-0.38	1.73	2.03	2.39	2.51	1.26
ASCI (Cracking)	2.02	1.29	2.34	1.87	↓	-0.47	1.49	1.80	2.28	2.38	1.21
50/50 HLS/LLS (Coking)	9.06	7.04	5.93	5.68	↓	-0.26	5.02	6.32	6.52	6.24	4.29
50/50 Maya/Mars (Coking)	6.44	2.17	1.46	2.68	↑	1.22	2.30	2.86	2.91	3.37	1.70
ASCI (Coking)	7.01	5.34	5.34	4.70	↓	-0.63	4.17	4.93	5.45	5.04	3.44
US Midwest											
WTI (Cracking)	16.59	13.09	12.32	7.93	↓	-4.39	7.99	7.66	5.87	5.89	4.45
30/70 WCS/Bakken (Cracking)	23.40	27.60	30.00	10.53	↓	-19.47	8.06	8.53	6.74	5.39	3.08
Bakken (Cracking)	20.60	21.81	26.92	9.02	↓	-17.90	7.13	6.71	4.73	3.68	2.17
WTI (Coking)	18.77	14.70	13.22	8.58	↓	-4.64	8.56	8.38	6.60	6.20	4.46
30/70 WCS/Bakken (Coking)	26.76	30.18	32.09	11.70	↓	-20.38	9.14	9.80	7.74	5.59	2.75
Bakken (Coking)	21.40	22.27	27.08	9.12	↓	-17.96	7.18	6.84	4.89	3.61	1.93
Singapore											
Dubai (Hydroskimming)	0.13	0.99	2.74	0.40	↓	-2.35	0.37	-0.05	0.52	0.81	1.01
Tapis (Hydroskimming)	1.34	0.82	3.99	0.84	↓	-3.15	-0.20	1.75	2.71	0.03	0.75
Dubai (Hydrocracking)	4.91	4.56	4.31	2.24	↓	-2.06	2.10	2.46	2.46	2.92	3.14
Tapis (Hydrocracking)	5.08	3.65	5.17	2.14	↓	-3.03	1.09	3.52	3.86	1.35	2.02

1 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)

The most dramatic developments, however, occurred in the US Midcontinent, where refiners have long enjoyed discounted Canadian or domestic feedstocks. This came to an abrupt end in December as the crude differentials narrowed sharply due to the announced production cuts in Alberta. Western Canadian Select's (WSC) indicative coking margins crashed from about $38/bbl in early November to just $1.45/bbl at the beginning of January, as the WCS differential to WTI narrowed from $50/bbl to just $7/bbl. In addition, PADD 2 runs and diesel and gasoline stocks were near record highs in December.





OECD refinery throughput

After a cumulative 3.2 mb/d decline over September and October, OECD throughput rebounded in November by 1.4 mb/d, but was 0.5 mb/d lower y-o-y. Runs are estimated to have climbed another 1.5 mb/d m-o-m in December. Overall, runs in 4Q18 were down 1 mb/d quarter-on-quarter (q-o-q) and 0.4 mb/d y-o-y. Throughput is expected to climb counter-seasonally by some 0.2 mb/d into 1Q19, supported by significant y-o-y growth in the US and the absence of further declines in Mexico.

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

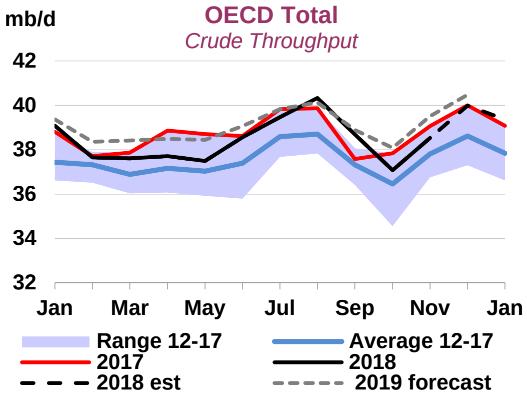
	Jun 18	Jul 18	Aug 18	Sep 18	Oct 18	Nov 18	Change from Oct 18	Change from Nov 17	Utilisation rate[1] Nov 18	Utilisation rate[1] Nov 17
US[2]	17.67	17.36	17.61	16.99	16.41	17.07	0.66	0.23	90%	89%
Canada	1.71	1.78	1.78	1.76	1.61	1.78	0.17	0.05	88%	89%
Chile	0.18	0.18	0.19	0.19	0.19	0.19	0.00	0.00	83%	85%
Mexico	0.65	0.64	0.68	0.61	0.48	0.51	0.03	-0.08	31%	36%
OECD Americas[3]	**20.21**	**19.95**	**20.27**	**19.54**	**18.69**	**19.54**	**0.85**	**0.19**	**85%**	**85%**
France	1.04	1.18	1.22	1.24	1.22	1.09	-0.13	-0.16	88%	101%
Germany	1.93	1.90	1.89	1.56	1.53	1.84	0.32	-0.09	91%	95%
Italy	1.28	1.33	1.44	1.35	1.29	1.38	0.09	-0.06	79%	83%
Netherlands	1.07	1.08	1.13	1.00	0.98	1.01	0.02	-0.02	78%	80%
Spain	1.21	1.30	1.47	1.38	1.42	1.38	-0.04	0.08	98%	92%
United Kingdom	1.07	1.09	1.17	1.16	1.15	1.11	-0.03	0.05	88%	84%
Other OECD Europe	4.27	4.53	4.60	4.42	4.10	4.12	0.02	-0.23	92%	97%
OECD Europe	**11.88**	**12.40**	**12.91**	**12.09**	**11.68**	**11.92**	**0.24**	**-0.43**	**89%**	**92%**
Japan	2.53	2.97	3.22	3.05	2.60	3.02	0.43	-0.18	85%	90%
South Korea	3.03	3.15	2.97	2.98	3.12	3.08	-0.04	-0.13	93%	99%
Other Asia Oceania	0.81	0.90	0.87	0.93	0.90	0.86	-0.04	0.02	99%	96%
OECD Asia Oceania	**6.37**	**7.03**	**7.05**	**6.96**	**6.62**	**6.96**	**0.35**	**-0.29**	**90%**	**95%**
OECD Total	**38.46**	**39.38**	**40.23**	**38.59**	**36.98**	**38.43**	**1.44**	**-0.53**	**87%**	**89%**

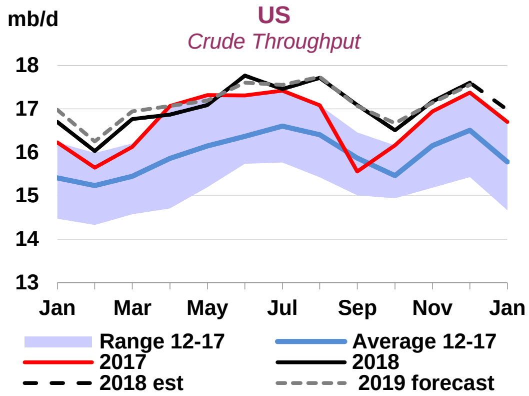
1 Expressed as a percentage, based on crude throughput and current operable refining capacity

2 US50

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

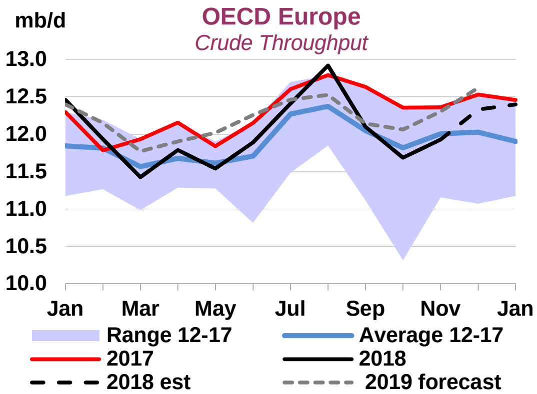
US December throughput at 17.5 mb/d was a new seasonal record, but this resulted in bloated gasoline inventories, which entered 2019 at a new seasonal peak of 248 mb. Runs are now expected to decline by 1.35 mb/d into February, but this might not help lower the stocks level, as winter demand for transport fuels is traditionally low. There was no visible recovery in **Mexican** refinery operations, as utilisation rates in November stayed near 30%, and have likely remained low in December. We assume runs will ramp up to 700 kb/d by 4Q19. Despite the commissioning of the 80 kb/d Sturgeon refinery, **Canada's** throughput declined by 90 kb/d in 2018, due to a heavy maintenance schedule and fire damage at Irving Oil's refinery at St. John, New Brunswick.

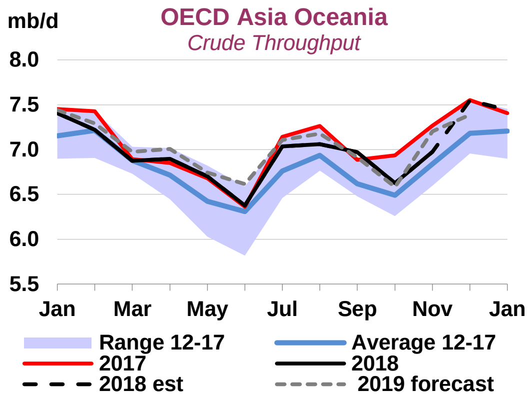




In **Turkey**, the launch of the 200 kb/d Star refinery in Aliaga is yet to show up in throughput numbers, as the start-up has been somewhat slow. In fact, November runs fell below 400 kb/d again, 90 kb/d lower y-o-y, implying utilisation rates at just 60%, excluding the new capacity. Throughput is expected to increase by 190 kb/d in 2019. **Germany's** refining activity is also recovering from a string of accidents last autumn, with preliminary throughput data in November at 1.8 mb/d, up 300 kb/d m-o-m. German losses were a major factor in **OECD Europe's** 430 kb/d y-o-y decrease in 4Q18. After a 250 kb/d decline in 2018, the regional runs are expected to grow by 180 kb/d in 2019.

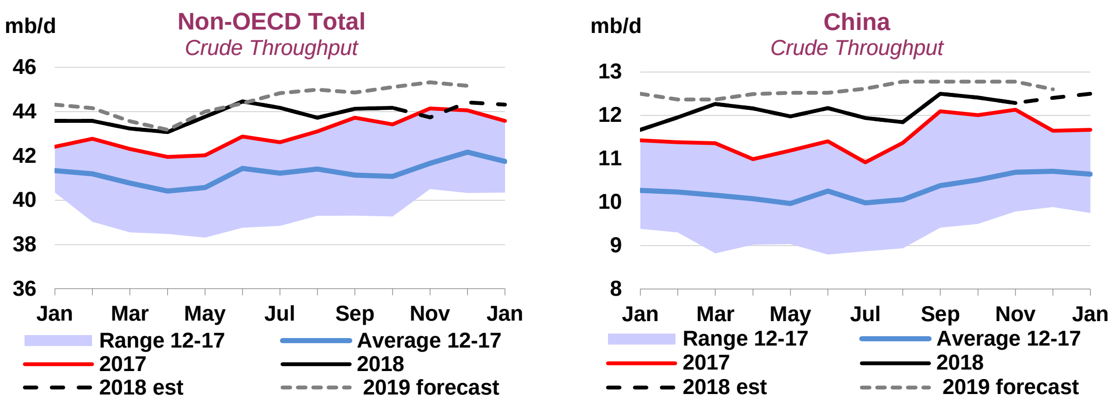
OECD Asia throughput increased 350 kb/d m-o-m in November mainly due to Japanese refiners ending their autumn maintenance programmes, but remained 300 kb/d below year earlier levels. **Korean** refiners in particular are feeling the pressure from Chinese product exports. November runs were 130 kb/d lower y-o-y, but we have no record of maintenance outages.





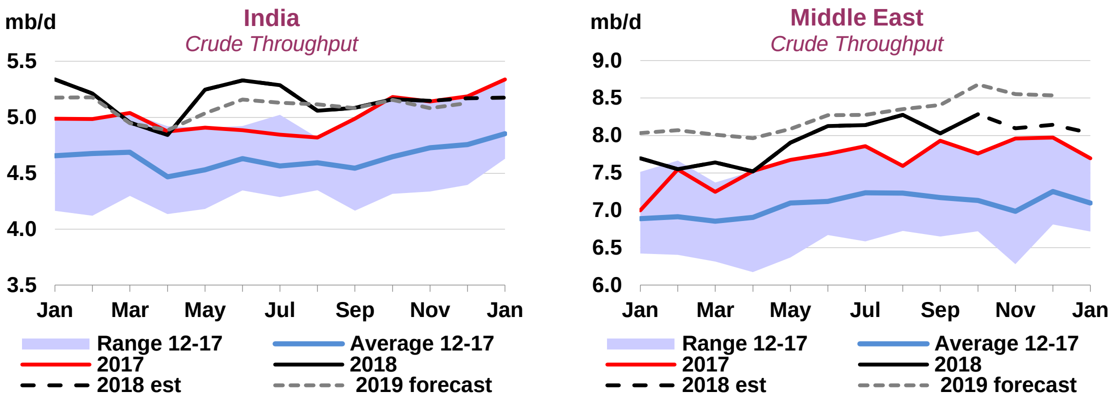
Non-OECD refinery throughput

In 4Q18, non-OECD throughput growth slowed sharply to just 240 kb/d, from an average of 1.1 mb/d in the earlier part of the year. Latin America registered its largest y-o-y decline yet at 600 kb/d, while China and the Middle East continued to see robust growth. The impact of Latin American slowdown will last until 4Q19, holding back total non-OECD throughput growth to only 500 kb/d in the first three quarters of the year. However, in 4Q19, the growth rate doubles to 1.1 mb/d, helped also by new capacity ramping up. China and the Middle East remain the largest sources of incremental refining activity.



Chinese refinery throughput in November declined for the second consecutive month, to 12.2 mb/d, but likely increased in December and January prior to February's Lunar New Year holidays. Chinese projects account for 1.4 mb/d of 2019's new capacity, and runs are expected to increase by 450 kb/d, compared to 2018's 600 kb/d.

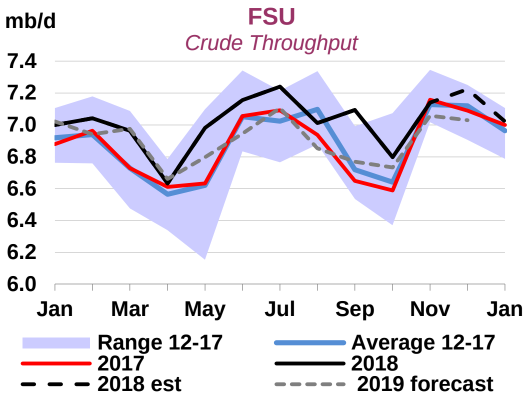
Indian throughput in November fell slightly from October levels to 5.14 mb/d, as several refineries are out for maintenance. Runs were flat y-o-y, and we expect 4Q18 output to remain as such. This marks a break from the average growth of 220 kb/d observed in the previous four quarters as a heavy outage period has kicked in to enable refinery equipment upgrades.

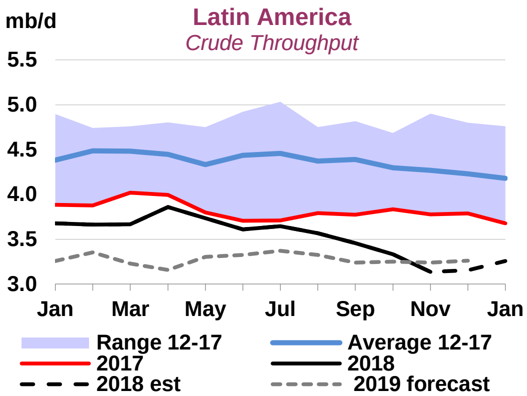


With refinery runs in **Saudi Arabia** near record highs, and **Iran** reportedly ramping up the new units at the Persian Gulf Star refinery, Middle East throughput in 4Q18 was estimated at 8.2 mb/d, its highest ever level. In 2019, annual growth is expected to remain at the robust 300 kb/d level observed in 2018.

Higher throughput in Kazakhstan and Russia is contributing to the first annual growth in FSU runs in four years. **Kazakh** refineries are processing some 25 kb/d more crude in 2018, after the three principal refineries underwent upgrades and debottlenecking last summer. **Russian** runs ramped up 130 kb/d, in the first annual increase since 2014. In 2019, downstream taxation changes are expected to reverse this year's gains.

November throughput in Latin America reached a new record low at just 3.1 mb/d, down 640 kb/d y-o-y, largest monthly decrease yet. Overall 4Q18 throughput declined by about 600 kb/d, due to the almost complete shutdown of activity in **Venezuela**, the continued outage at **Curacao**, which is operated by PDVSA, and the permanent closure of **Trinidad's** sole refinery. **Brazil** refinery throughput in November was down 50 kb/d m-o-m, and 90 k/b lower y-o-y.





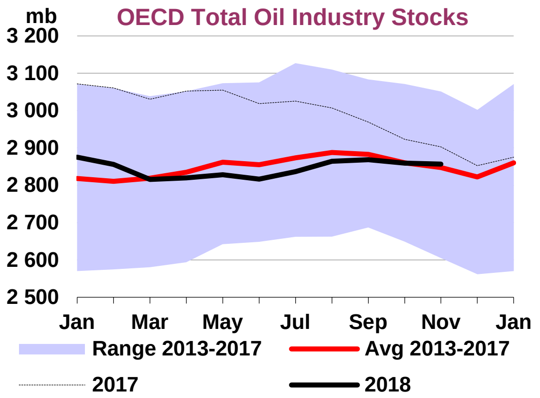
In January, PDVSA partially restarted the refinery in Curacao after an outage of eight months. PDVSA's lease of the Curacao refinery runs out at the end of 2019. Saudi Aramco's US subsidiary Motiva is reportedly in talks with the island's government to take over the lease. In 2019, Latin American throughput is expected to decrease by 270 kb/d y-o-y, compared to a fall of 290 kb/d in 2018. Given that our 2019 number includes the impact of permanent closures in Trinidad and Jamaica, it is likely that Latin America has exhausted the potential for further declines in refining activity.

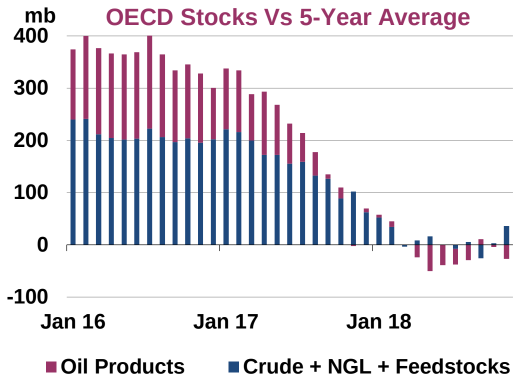
STOCKS

Summary

OECD commercial stocks declined 2.5 mb month-on-month (m-o-m) in November to 2 857 mb. Following revisions made to October figures, this marks the second consecutive monthly decline. Inventories are now 9 mb above the five-year average. In November, crude stocks continued to expand, reaching their highest level since May, despite significantly higher refinery runs across the OECD.

Higher light tight oil (LTO) production in the US and record high Canadian output have started to overwhelm refining capacity and are having a visible impact on stocks. In OECD Americas, crude stocks rose for the fifth straight month and are now well above the five-year average. By contrast, oil product stocks declined counter-seasonally, with sharp draws in middle distillates and LPG seen in the Americas linked to frigid temperatures. Product stocks also fell counter-seasonally in Europe.





OECD commercial stocks showed little volatility during 2018, moving within a range of 2 816-2 876 mb throughout the year. In September-November, they moved by just 2 mb on average each month. Preliminary data for Europe, Japan and the US showed inventories increasing by 8.5 mb in December. If those figures are confirmed, it would mean that OECD stocks finish the year close to 2 866 mb, just 12 mb, or 0.4%, higher than at the end of 2017.

Preliminary Industry Stock Change in November 2018 and Third Quarter 2018

	November 2018 (preliminary)								Third Quarter 2018			
	(million barrels)				*(million barrels per day)*				*(million barrels per day)*			
	Am	Europe	As. Ocean	Total	Am	Europe	As. Ocean	Total	Am	Europe	As. Ocean	Total
Crude Oil	**12.4**	**-0.9**	**1.8**	**13.2**	**0.41**	**-0.03**	**0.06**	**0.44**	**0.00**	**-0.30**	**-0.24**	**-0.55**
Gasoline	-2.2	2.0	0.2	0.0	-0.07	0.07	0.01	0.00	0.04	0.01	0.00	0.05
Middle Distillates	-3.3	-4.4	5.3	-2.4	-0.11	-0.15	0.18	-0.08	0.27	0.17	0.13	0.58
Residual Fuel Oil	-1.1	-0.2	1.0	-0.3	-0.04	-0.01	0.03	-0.01	0.00	-0.03	-0.01	-0.04
Other Products	-14.4	-1.1	0.5	-15.0	-0.48	-0.04	0.02	-0.50	0.31	0.00	0.10	0.40
Total Products	**-20.9**	**-3.6**	**6.9**	**-17.6**	**-0.70**	**-0.12**	**0.23**	**-0.59**	**0.61**	**0.16**	**0.22**	**0.98**
Other Oils[1]	-1.3	0.5	2.7	1.9	-0.04	0.02	0.09	0.06	0.16	-0.07	0.04	0.13
Total Oil	**-9.9**	**-4.1**	**11.4**	**-2.5**	**-0.33**	**-0.14**	**0.38**	**-0.08**	**0.76**	**-0.22**	**0.02**	**0.56**

1 Other oils includes NGLs, feedstocks and other hydrocarbons.

OECD inventories were revised 12.2 mb lower in October, with downward adjustments made in the Americas and Europe. OECD stocks are now estimated to have fallen 9.1 mb, the first decline registered since June. For September, OECD stocks were revised up 2.7 mb.

Revisions versus December 2018 Oil Market Report
(million barrels)

	Americas		Europe		Asia Oceania		OECD	
	Sep-18	Oct-18	Sep-18	Oct-18	Sep-18	Oct-18	Sep-18	Oct-18
Crude Oil	**0.6**	**-7.6**	**-0.2**	**3.7**	**-0.4**	**0.4**	**0.0**	**-3.5**
Gasoline	0.0	1.4	0.4	0.0	0.0	0.0	0.4	1.4
Middle Distillates	0.0	-3.5	1.8	-8.8	0.4	-1.4	2.2	-13.6
Residual Fuel Oil	0.0	-0.9	0.1	-0.3	0.0	0.3	0.1	-0.9
Other Products	0.1	2.3	-0.3	1.7	0.6	1.3	0.3	5.2
Total Products	**0.1**	**-0.7**	**1.9**	**-7.4**	**0.9**	**0.3**	**2.9**	**-7.8**
Other Oils[1]	0.0	-1.8	-0.2	0.8	0.0	0.2	-0.2	-0.8
Total Oil	**0.6**	**-10.1**	**1.5**	**-2.9**	**0.5**	**0.8**	**2.7**	**-12.2**

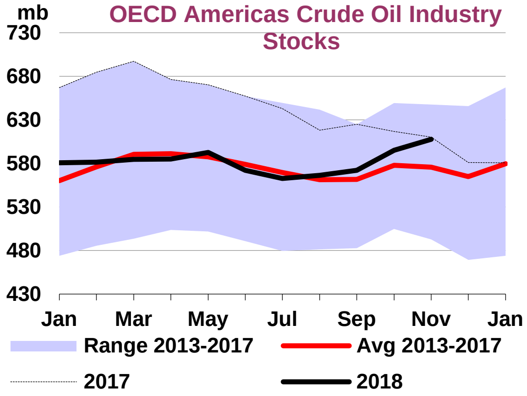
1 Other oils includes NGLs, feedstocks and other hydrocarbons.

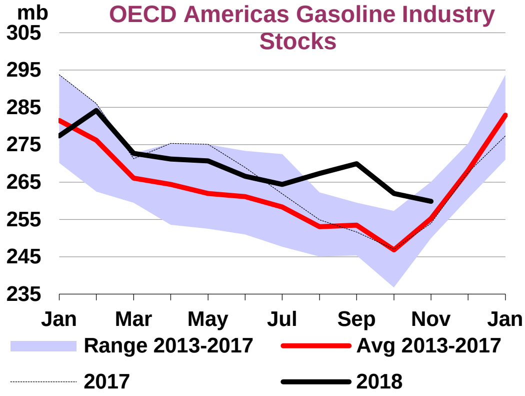
Recent OECD industry stock changes

OECD Americas

In November, commercial stocks in OECD Americas fell 9.9 mb to 1 523 mb. This was the second straight monthly decline, following the surge recorded during 3Q18 on the back of higher US LTO production and strong LPG restocking. Some of the factors that boosted stocks over the summer remained in place in November, such as the continued increase in LTO production and crude holdings. However, others disappeared. Oil product stocks declined counter-seasonally, by 20.9 mb, as cold weather took hold and demand for heating fuels increased sharply during the month.

There was a counter-seasonal reduction in gasoline (-2.2 mb), as lower prices reduced gasoline imports on the US East Coast and as refiners prioritised diesel output. Meanwhile, middle distillate stocks fell 3.3 mb on the back of higher demand. November was much colder than usual in Canada and the eastern US region, where diesel continues to be used as a heating fuel. 'Other product' stocks (largely LPG, also a heating fuel) also declined more than usual for the time of year, by 14.4 mb to 227 mb. Inventories of LPG remained around 7 mb higher than the five-year average at the end of the month thanks to strong restocking over the summer.



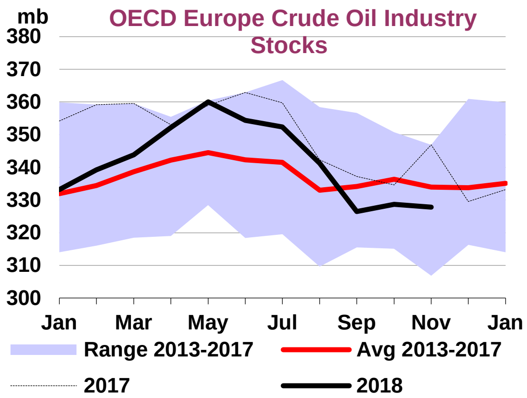


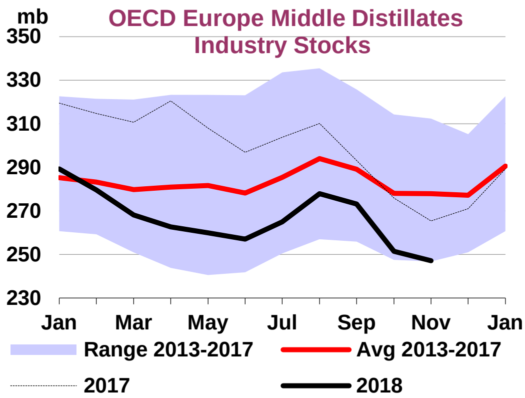
Crude holdings, on the other hand, rose counter-seasonally by 12.4 mb to 608 mb. This was their highest level in a year, despite the return of refineries from maintenance. Crude exports averaged 2.4 mb/d, a new historical record, while imports increased marginally to 7.6 mb/d. High refining utilisation pushed down crude stocks during the first eight months of 2018. However, it looks like higher LTO production and Canadian output have started to overwhelm the system's capacity and stocks are now clearly above the five-year average.

Preliminary December data from the Energy Information Administration show US stocks were little changed in December, rising by a mere 2 mb. Crude stocks fell for the first time in several months as refineries increased runs further, however the decrease was less than implied by normal seasonal patterns due to the sharp in increase in LTO production. Holdings in Cushing, Oklahoma, went up 3.8 mb m-o-m to 42 mb, a one-year high. Gasoline stocks rebounded from November's low, rising by a significant 17.2 mb m-o-m, while distillate holdings also rose 8.4 mb. Propane stocks drew 10 mb on the month, which was above normal for the time of year, suggesting strong demand.

OECD Europe

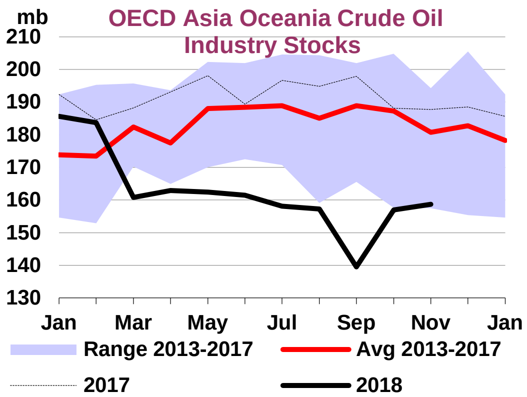
Commercial stocks in OECD Europe decreased 4.1 mb m-o-m to reach 918 mb at the end of November, their lowest level since January 2015. While most of the long-term decline since 2015 is attributed to gasoline and fuel oil, in November middle distillates made the largest contribution. Distillate holdings declined 4.4 mb on the month to 247 mb, to their lowest level since November 2013. We estimate that European demand for diesel and gasoil declined 15 kb/d in 2018, the first annual fall since 2014, while jet fuel consumption increased by just 55 kb/d. This means other factors, such as lower diesel output from refiners and lower imports, are likely to have played a part in recent stock falls. Other stock declines in November included crude (-0.9 mb), fuel oil (-0.2 mb) and 'other products' (-1.1 mb) whereas gasoline inventories increased 2 mb m-o-m.

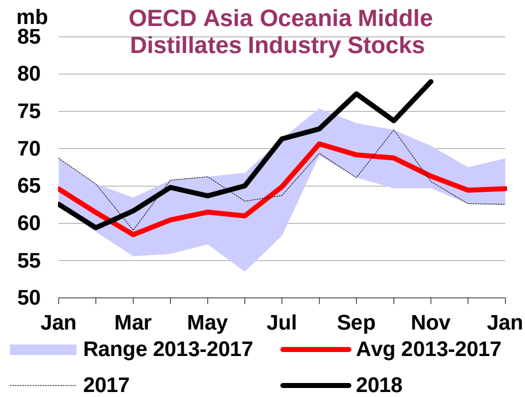




Preliminary data for December from *Euroilstock* showed European oil stocks rising by 4.4 mb on the back of gains in crude (+2.3 mb) and gasoline (+2.8 mb). Seaborne crude imports rose 420 kb/d in December to reach 9.9 mb/d, data from *Kpler* showed, while refining runs also increased by around 400 kb/d to 12.3 mb/d. Other product stocks, such as fuel oil (-0.3 mb) and naphtha (-0.4 mb) fell. Middle distillate inventories were unchanged on the month.

OECD Asia Oceania





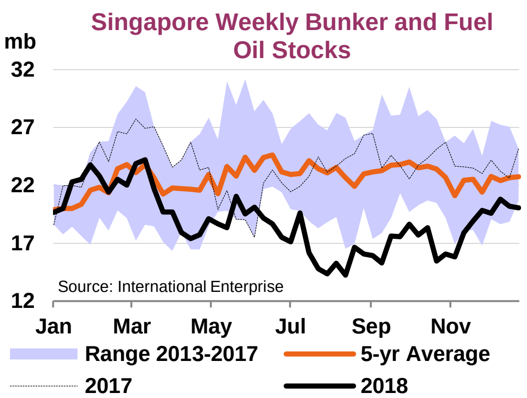
Commercial holdings in OECD Asia Oceania increased counter-seasonally in November, by 11.4 mb to 416 mb, meaning the region's stocks are now at their highest level in a year. Exceptionally, all product categories increased on the month, with the largest gains seen in middle distillates (+5.3 mb to 79 mb), followed by crude oil (+1.8 mb to 159 mb), fuel oil (+1 mb to 20 mb) and gasoline (+0.2 mb to 26 mb). The region's middle distillate inventories have increased sizeably in the last few months and now stand well above the five-year average, helped by higher refinery runs and lower Korean diesel exports.

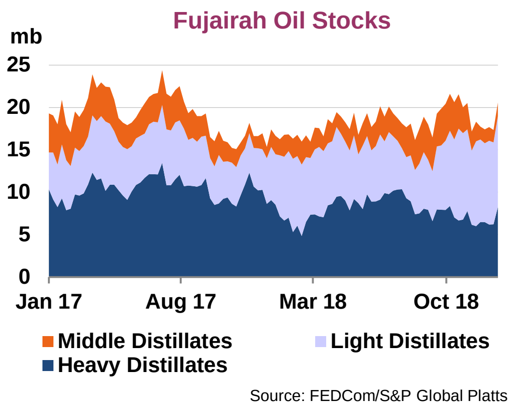
Preliminary data for December from the *Petroleum Association of Japan* (PAJ) show stocks declining 6.5 mb m-o-m due to the seasonal increase in kerosene consumption linked to colder weather. Kerosene stocks declined 2.7 mb, in line with the five-year average draw for the month. Crude stockpiles increased 1.6 mb m-o-m as imports inched up.

Other stock developments

Stockpiles in the 21 non-OECD countries covered by the JODI database gained 11.4 mb m-o-m in October, helped by increases in Iraq (+6 mb), Angola (+5.6 mb) and Brazil (+3.4 mb). By contrast, stocks continued to fall in Saudi Arabia (-2.5 mb). Overall, JODI oil stocks were down 3.8 mb in the first ten months of 2018, the same data showed. The largest decrease, of 24.2 mb, was recorded in Saudi Arabia, whereas Iraq and Angola showed the biggest gains.

Short-term crude floating storage was largely unchanged in December, rising 1.4 mb m-o-m to 17 mb, according to *EA Gibson*. The Middle East made up three-quarters of all global floating storage volumes at the end of the month. The bulk of the oil (12.6 mb) came from Iran, following the United States' decision to enact sanctions on Iran's oil sales in 2018.



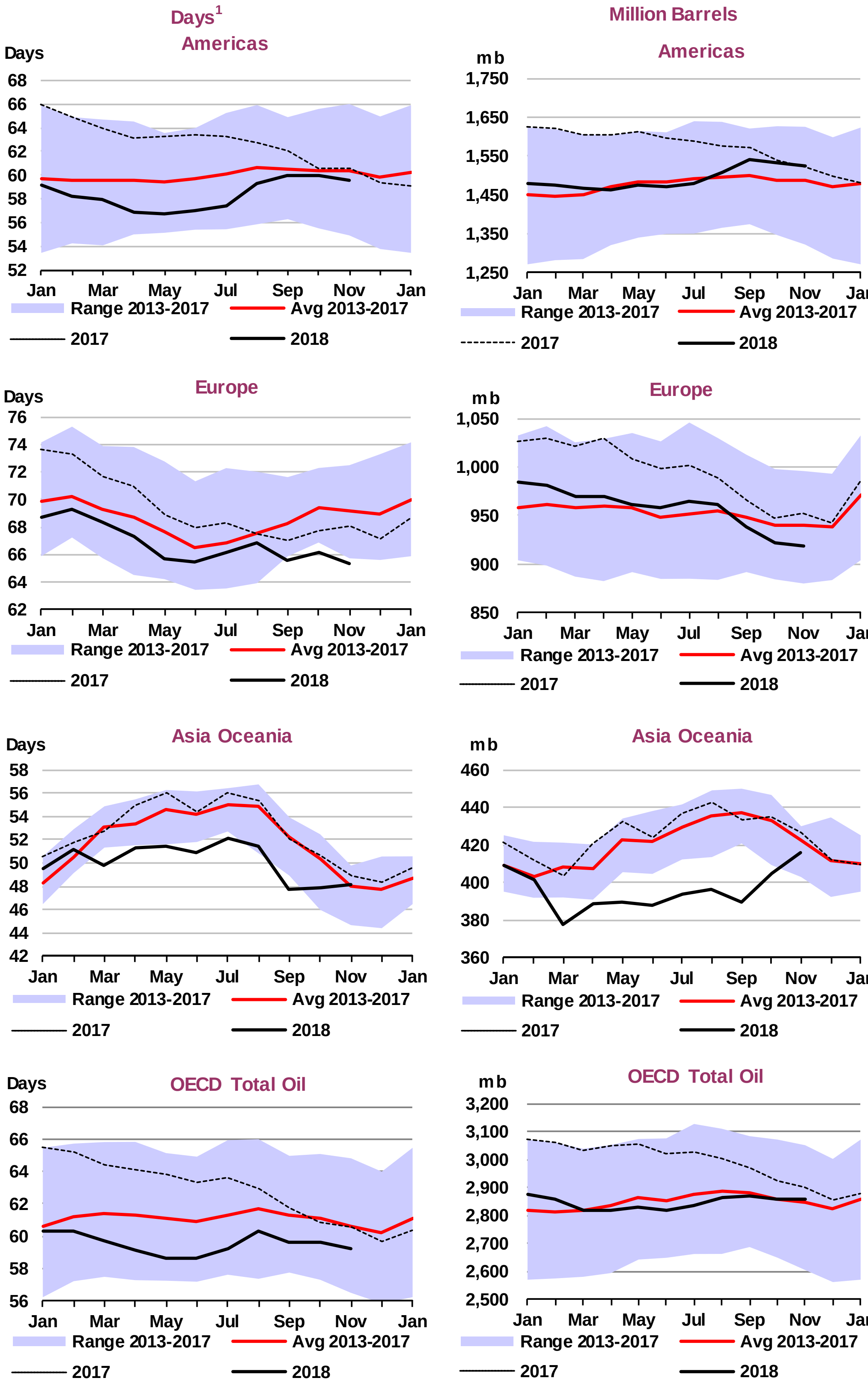


Chinese crude imports and crude production continued to outpace refinery runs in December by around 1.6 mb/d, customs data and IEA estimates showed. Overall, for 2018, we estimate the total gap at 247 mb (670 kb/d), the largest ever recorded, implying that strategic petroleum reserves have increased further during the year.

Oil stocks in Fujairah fell 0.5 mb in December to 17 mb, with a draw registered in middle distillates, data from *S&P Global Platts* and *FEDCom* showed. Fuel oil and bunker inventories rose a little from the ten-month low reached the previous month. Singapore's oil inventories built for the second straight month, by 3 mb to 47 mb, according to *International Enterprise*. Fuel oil and bunker stocks were at their highest level since May.

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

Oil prices fell month-on-month (m-o-m) in December, despite the parties to the Vienna Agreement announcing production cuts at the beginning of the month. However, benchmark crude futures have gained over 10% since the start of 2019 as output cuts from major producers such as Saudi Arabia and Canada took effect. Announced mandated output reductions in Canada caused Western Canadian Select (WCS) differentials to narrow to $16/bbl at end December. In Russia, where exports are set to drop in early 2019, Urals reached a five-year high against North Sea Dated. Well-supplied markets, particularly for gasoline and jet fuel, saw prices for refined products fall faster than crude at the end of 2018. Looking ahead into 2019, major additions to refinery capacity and higher Chinese export quotas for middle distillates may continue to pressure crack spreads.

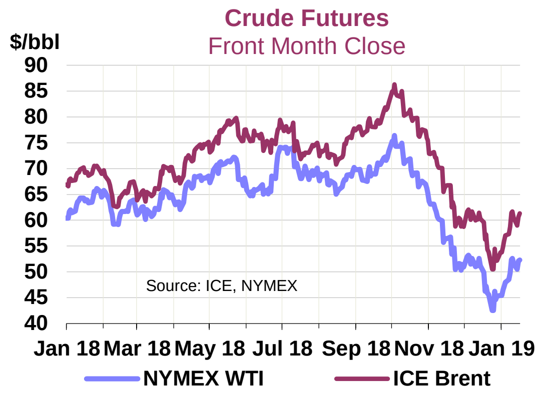
Futures markets

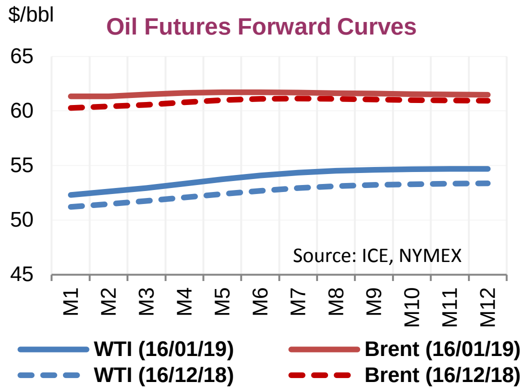
In December, oil futures prices fell for the third month in a row. At the end of December, ICE Brent was down by $32.49/bbl from the peak of $86.29/bbl at the beginning of October. NYMEX WTI also declined by over $30/bbl, and at $45.41/bbl on 31 December, settled $8.39/bbl below Brent. Brent and WTI started 2018 at $66.87/bbl and $60.42/bbl, respectively, and gained steadily for the first nine months of the year on record compliance by members of the Vienna Agreement, strong oil demand growth and as new Iranian sanctions tightened the market. However, sentiment shifted in 3Q18 as US production growth soared, supplies returned from OPEC and Russia, Iranian sanctions waivers were issued and a weaker economic outlook for 2019 emerged. Since the beginning of 2019, futures prices have ticked up by $7/bbl in anticipation of production cuts and due to positive news regarding US-China trade talks. However, both the Brent and WTI futures curves are in contango indicating a market with ample prompt supply. Meanwhile, the DME Dubai curve is in backwardation as producers in the Middle East restrict production.

Prompt Month Oil Futures Prices
(monthly and weekly averages, $/bbl)

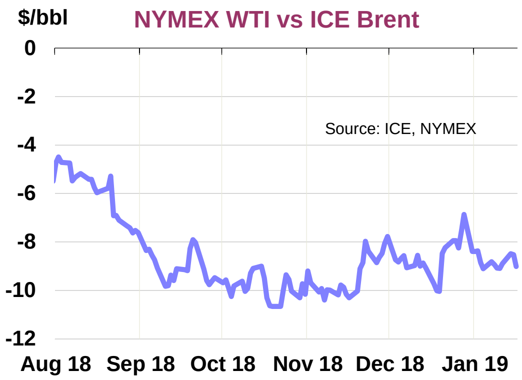
	Oct	Nov	Dec	Dec-Nov Avg Chg	% Chg	Week Commencing: 10 Dec	17 Dec	24 Dec	31 Dec	07 Jan
NYMEX										
Light Sweet Crude Oil	70.76	56.69	48.98	-7.71	-13.6	51.52	46.96	44.67	46.75	50.97
RBOB	81.96	65.47	58.28	-7.19	-11.0	60.41	57.02	54.70	56.14	58.47
ULSD	98.04	86.06	75.54	-10.51	-12.2	77.82	74.49	70.76	72.37	77.88
ULSD ($/mmbtu)	17.29	15.18	13.32	-1.85	-12.2	13.72	13.14	12.48	12.76	13.74
Henry Hub Natural Gas ($/mmbtu)	3.21	4.09	3.93	-0.17	-4.1	4.21	3.70	3.49	2.97	2.99
ICE										
Brent	80.63	65.95	57.67	-8.28	-12.6	60.41	56.26	52.33	55.43	59.93
Gasoil	96.92	84.54	73.18	-11.37	-13.4	75.83	71.32	67.65	69.41	74.64
Prompt Month Differentials										
NYMEX WTI - ICE Brent	-9.87	-9.26	-8.69	0.57		-8.89	-9.30	-7.66	-8.68	-8.96
NYMEX ULSD - WTI	27.28	29.37	26.56	-2.80		26.30	27.53	26.09	25.62	26.91
NYMEX RBOB - WTI	11.20	8.78	9.30	0.52		8.89	10.06	10.03	9.39	7.50
NYMEX 3-2-1 Crack (RBOB)	16.56	15.64	15.05	-0.59		14.69	15.88	15.38	14.80	13.97
NYMEX ULSD - Natural Gas ($/mmbtu)	14.08	11.08	9.40	-1.69		9.52	9.44	8.99	9.79	10.74
ICE Gasoil - ICE Brent	16.29	18.59	15.51	-3.09		15.42	15.06	15.32	13.98	14.71

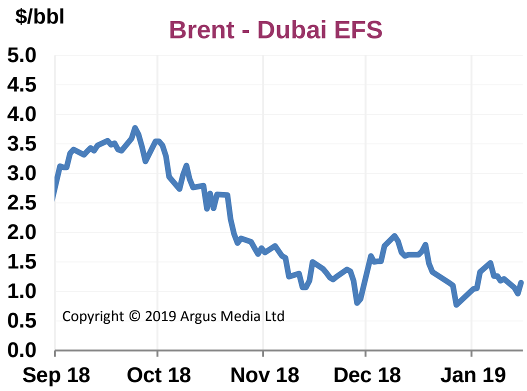
Source: ICE, NYMEX.



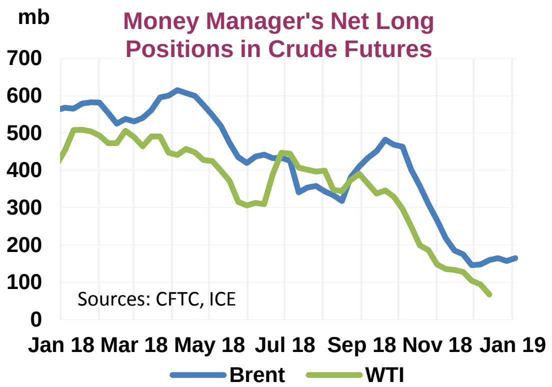


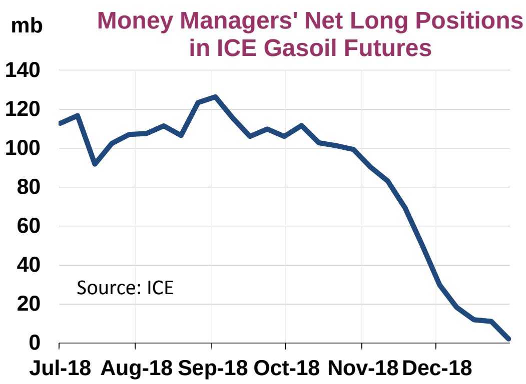
The NYMEX WTI-ICE Brent spread narrowed slightly in December, but remained wide at $8.69/bbl on average. The Brent-Dubai Exchange of Futures for Swaps (EFS) gained by only $0.21/bbl m-o-m, averaging $1.53/bbl. The relatively lower Brent price enhances the economics of grades in the North Sea, Africa and the Former Soviet Union. The ICE gasoil futures forward curve is in contango, with the January 2020 contract trading at a premium of $1.81/bbl above the February 2019 level.





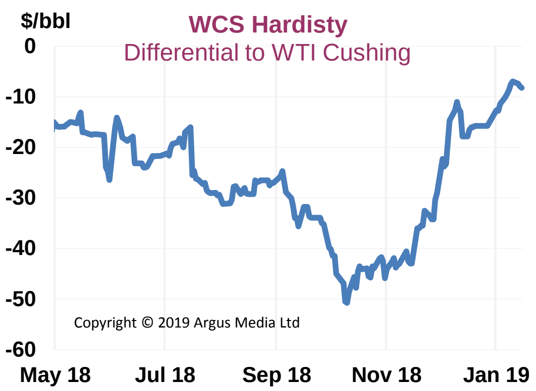
Money manager's net length in ICE Brent crude futures contracts fell to 146 mb in the first week of December. It has since increased by 20 mb marking a halt to the downward spiral that began in September when net length stood at 482 mb. An even more dramatic change in sentiment has been seen in diesel futures markets where hedge fund net length in ICE gasoil futures has been slashed to only 2 mb, having been at over 100 mb for most of 2018. Concern that global economic activity might decline has sparked a retreat from bets that diesel prices will rise. With diesel being widely used in the transport, industry and heating sectors, it is often seen a proxy for the prospects of the global economy. NYMEX trading activity data from the US Commodity Futures Trading Commission (CFTC) has not been available since 18 December due to the shutdown of several US government agencies.

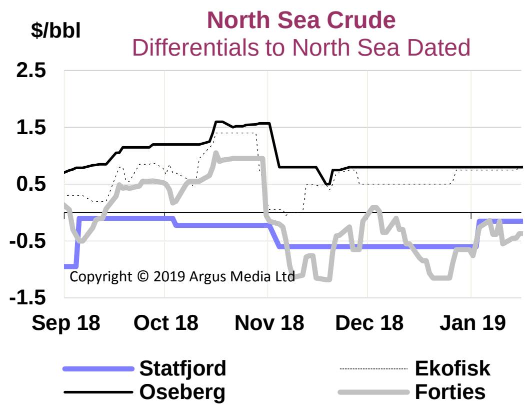




Spot crude oil prices

In December, the global abundance of supplies of light sweet crude saw WTI priced in Houston fall $0.76/bbl against North Sea Dated. Meanwhile, sour grades Mars and Poseidon gained $1.16/bbl and $1.33/bbl, respectively. Ever growing production from the Permian continued to run against infrastructure constraints as WTI Midland lost $1.82/bbl against WTI Cushing. Light tight oil (LTO) production from the Bakken play came down slightly from the record high seen in October as winter conditions hampered fracking and transportation activity. This, along with reduced Canadian crude flowing on the line, eased the strain on export constraints and saw prices in the field gain $12.61/bbl against WTI Cushing m-o-m, to average a discount of $1.41/bbl. This is much closer to the level seen for the last few years, as opposed to the average discount of $14.02/bbl observed in November when the impact of increasing output, refinery maintenance and a lack of transportation availability severely weighed on prices.





Having been priced at a $27.19/bbl discount to WTI Cushing from January to November 2018, Western Canadian Select (WCS) prices rebounded on the announcement of a 325 kb/d output cut, effective from January 2019. The mandated cut, shared amongst the largest upstream producers, is intended to ease pressure on inventories in Alberta, which have grown due to the lack of available export capacity. WCS in Hardisty gained $22.20/bbl m-o-m against Cushing, while the ramp-up in US refining activity also saw WCS priced in Cushing gain $0.20/bbl against WTI m-o-m. Despite the output cuts, pipelines to export WCS to the US remain at full capacity, while the narrower price differential severely hampers the economics of export by rail, which can cost up to $22/bbl to the US Gulf Coast. This may incentivise Gulf Coast refiners to switch to alternative heavy crudes, such as Maya. Other supplies from Venezuela and OPEC are less readily available.

A pipeline shut-in at the Buzzard field saw the Forties differential to North Sea Dated gain $1/bbl from mid- to end-November as a number of shipments were cancelled or delayed. With production usually at 150 kb/d, Buzzard is the largest contributor to the Forties stream. Since peaking at a premium of $0.09/bbl on 3 December, prices retreated on the news that the field would be back online by mid-month and as demand from Asia Pacific was slim. Differentials for Brent and Ekofisk gained $0.64/bbl and $0.14/bbl m-o-m, respectively, and the discount of WTI to North Sea Dated widened slightly, by $0.12/bbl m-o-m. The start of 2019 saw an uptick in North Sea differentials on increased demand both regionally and from Asia Pacific and as February loading programmes showed a slight reduction in Forties output.

Following a market consultation, S&P Global Platts (*Platts*) is proposing to include deals for North Sea crudes delivered to Rotterdam, adjusted for freight costs, in its North Sea Dated Brent crude oil benchmark. This would increase the number of deals included in the price assessment and so enhance liquidity underpinning the benchmark for light sweet crude in North West Europe. Brent has dominated as a reference price for decades, however, declining North Sea output has seen some market participants question its relevance. At the start of 2018, to combat liquidity issues, *Platts* added Troll to the Dated Brent assessment. The new proposal is a much more significant change to the price discovery process as it could pave the way for other light sweet crudes, such as from West Africa or the US, to be included.

Spot crude oil prices and differentials

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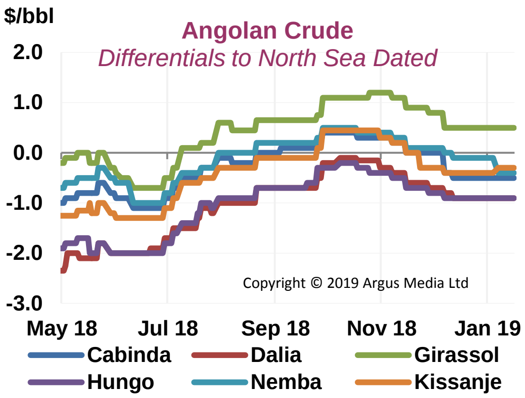
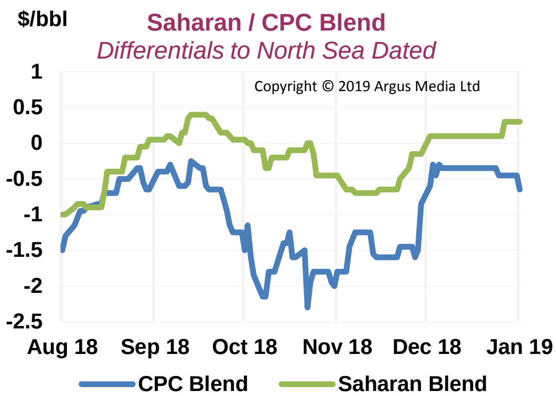
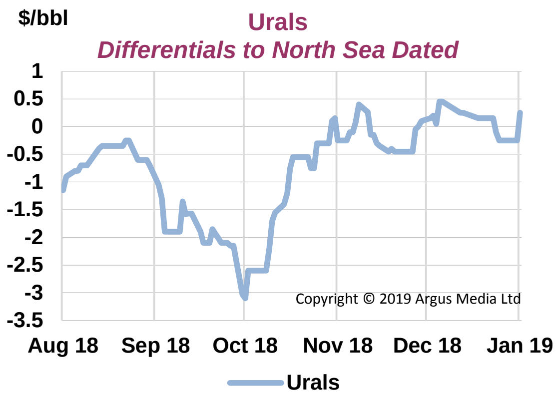
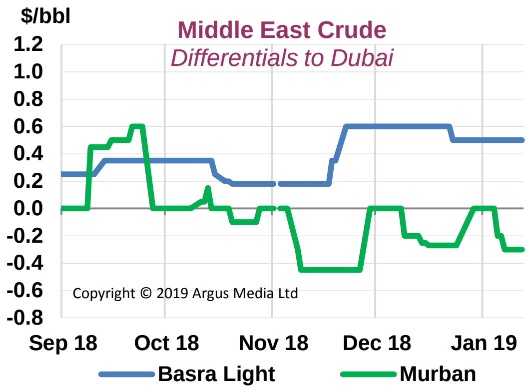




Differentials for benchmark Angolan crudes versus North Sea Dated declined in December by between $0.27/bbl and $0.48/bbl m-o-m. The announced waivers for Iranian sanctions caused Chinese demand for Angolan crude, a substitute for Iranian supplies, to slow. In Nigeria, key grades strengthened against North Sea Dated as lower rates to ship crude gave demand a boost. Qua Iboe gained $0.18/bbl against the benchmark m-o-m, while Brass River gained $0.28/bbl. The start-up of Total's Egina field will support increased Nigerian exports in 2019.

The shut-in of around 300 kb/d of Libyan production due to militant attacks had a positive impact on the prices of regional competing crudes such as CPC Blend, Es Sider and Saharan Blend, which increased $0.66/bbl, $0.16/bbl and $0.27/bbl m-o-m against North Sea Dated, respectively. Gains were pared from mid-month on the anticipation that Libyan supplies would soon return to the market, although at the time of writing force majeure was still in place. A halt to the decline in gasoline and naphtha cracks, which had fallen sharply between September and November, also contributed to CPC Blend's strength, despite exports of the grade hitting a record high in December. The premium of Urals in North West Europe to North Sea Dated hit a five-year high of $0.45/bbl on 20 December. Chinese independent refiners stepped up their purchases while loading programmes show that exports will fall in January, further tightening regional sour crude markets.



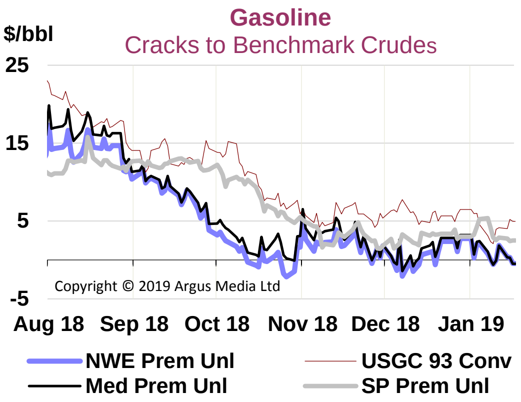


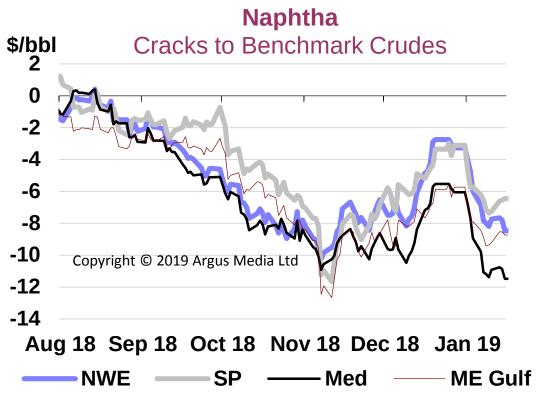
The announcement that OPEC members would cut production supported the differentials for benchmark crudes in the Middle East such as Qatar Marine, which gained $0.11/bbl m-o-m. On the anticipation of reduced supplies from the Middle East region, the Brent-Dubai EFS fell by $0.10/bbl, hitting a 17-month low of $0.77/bbl on 28 December. Asia Pacific demand for Murban saw its price gain $0.16/bbl against Dubai in December, having fallen $0.28/bbl the previous month, as weaker gasoline margins weighed on demand for light sour crude. Basra Light gained $0.30/bbl m-o-m against Dubai, while continued strength in Asia Pacific fuel oil markets bolstered medium and heavy sour crude such as Basra Heavy. The price of Iranian Light and Iranian Heavy gained $0.51/bbl and $0.52/bbl m-o-m, respectively, as refiners from India, South Korea and Japan with sanctions waivers look set to increase their purchases in early 2019.

Spot product prices

With supplies of gasoline abundant, prices continued to slide in Europe. Rotterdam barge assessments for premium unleaded gasoline fell by $1.89/bbl against North Sea Dated in December and cracks moved back into negative territory in the first half of the month. In the US, where cracks had been declining m-o-m since September, the market stabilised and super unleaded and unleaded cracks on the US Gulf Coast (USGC) gained $0.23/bbl and $1.17/bbl, respectively, in December. There was strong demand due to Christmas travel and from Latin America. Prices on the US Atlantic Coast were supported as an unexpected refinery outage and pipeline shutdown reduced supplies to the region. The price of premium unleaded gasoline in Singapore fell $8.63/bbl m-o-m as higher refinery output in Asia saw the region well supplied. In early January, stronger Indonesian demand saw Asian cracks gain $2/bbl. However, with new sources of supply due in 1H19 from China and Malaysia, the recovery in Asia may be short-lived.

Naphtha markets staged a small comeback in December, with prices gaining against benchmark crudes. In North West Europe, naphtha gained $2.38/bbl against North Sea Dated on stronger demand from petrochemicals while blending demand remained weak. In Singapore, naphtha gained $3.37/bbl m-o-m against Dubai on petrochemical demand and as competing feedstock LPG prices remain relatively high. Reflecting a tighter prompt market, the Asian naphtha forward curve flipped into backwardation on 14 December. Scheduled cracker maintenance and new naphtha supplies from Abu Dhabi, Bahrain, Malaysia and Australia may pressure Asian prices at the beginning of 2019.





Spot product prices

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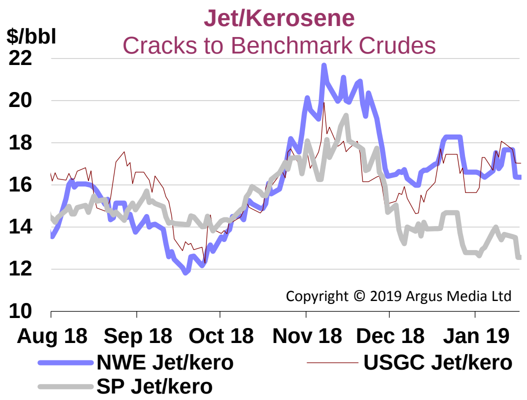
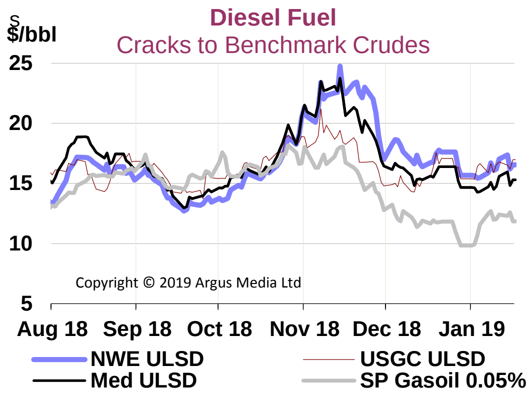
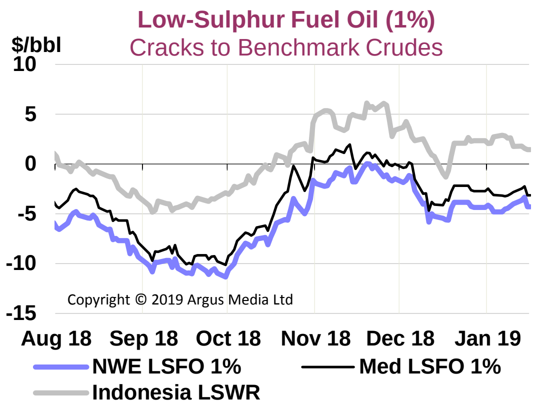
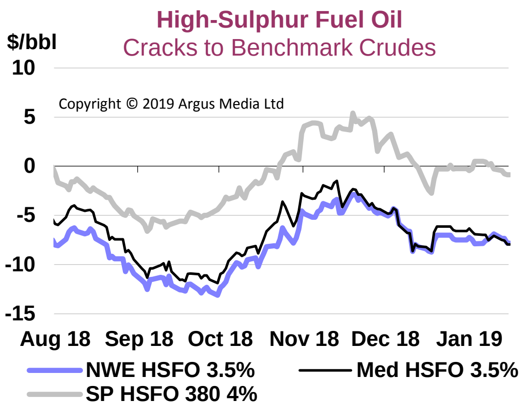
So far, mild winter weather in North Asia, particularly in Japan, has dampened kerosene demand. Cracks in Singapore declined $3.54/bbl m-o-m, with spot prices trading at a $1.45/bbl discount to swaps in early January, a three-year low. The warmer-than-usual weather has also seen demand for gasoil take a hit and cracks came down $4.35/bbl in December. Furthermore, there were higher-than-expected exports from Thailand and, in China, the recently issued 2019 export quotas suggest increased supplies are on the way. Overall, jet fuel remained at a healthy $1.41/bbl premium to gasoil in Singapore, with aviation demand likely to pick up during the Lunar New Year holiday at the beginning of February. A well-supplied European market, where demand has also been weak, contributed to Rotterdam barge assessments for jet declining by $10.17/bbl m-o-m. In early 2019, the North West Europe jet crack gained as imports slowed.





December saw continued softening in diesel markets. In Europe, the market has been well supplied with imports from Russia, the US and the Middle East. In North West Europe, cracks for ultra-low sulphur diesel fell by $4.41/bbl m-o-m and in the Mediterranean cracks declined by $4.99/bbl. In the US, higher refinery runs have ensured adequate supplies and there has been strong demand to export to Latin America, in particular to Brazil where there has been another refinery outage. This has not prevented a fall in diesel prices, down $2.52/bbl against Louisiana Light Sweet (LLS).

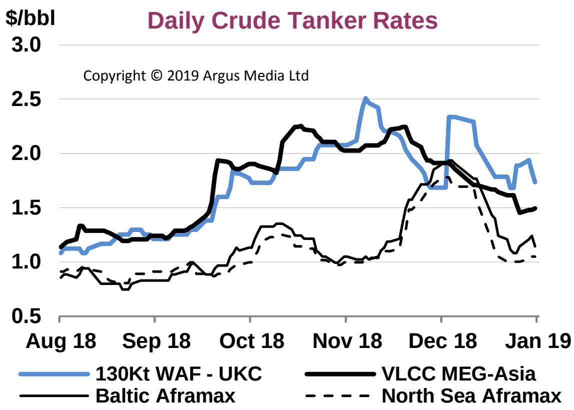


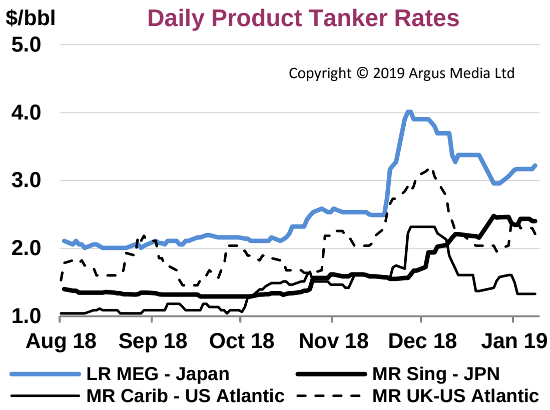


Fuel oil markets weakened in December. Low sulphur fuel oil cracks, which hit 22-month highs in late November, fell in North West Europe and the Mediterranean by $2.73/bbl and $3.13/bbl m-o-m, respectively. The main causes were lower Asian fuel oil demand for power generation due to milder weather and additional supplies have been available from Saudi Arabia due to the outage of an upgrading unit. Furthermore, while over 700 kb/d of refinery capacity was offline due to maintenance in October and November, most of it was back online in December, which increased fuel oil supplies to the market. In Singapore, the price of 180-centistoke high sulphur fuel oil declined by $12.12/bbl m-o-m.

Freight

In December, global crude oil production came down from recent highs and, in turn, there was a fall in demand for shipping. In particular, with supplies falling from the Middle East Gulf (MEG) as the fresh round of OPEC cuts takes effect in January, rates for Very Large Crude Carriers (VLCCs) travelling from MEG to Asia declined $0.12/bbl, and currently stand at $1.49/bbl, the lowest since October 2018. Freight rates to transport crude on Suexmaxes between West Africa (WAF) and North West Europe dropped $0.17/bbl, despite having spiked up to $2.34/bbl mid-December, as demand waned. Conversely, rates for Baltic and North Sea Aframaxes gained by $0.62/bbl and $0.54/bbl m-o-m. Tight availability of ships saw Aframax rates hit levels not seen since 2015 in mid-December although these have subsequently fallen back.





Freight rates to ship clean products increased in December. Higher US product exports to Europe saw rates for Medium Range vessels travelling from the US Atlantic Coast peak at $3.20/bbl on 12 December, a three-year high, before increased ship availability brought rates down to $2/bbl at the end of the month. Rates to transport product from the MEG to Japan jumped by $1.50/bbl to $4.01/bbl at the beginning of December due to a lack of ships. Easing demand saw rates fall $1.00/bbl over the month.

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
OECD DEMAND																	
Americas	24.6	24.9	24.6	25.1	25.2	25.3	25.1	25.3	25.4	25.8	25.8	25.6	25.4	25.8	26.1	26.0	25.9
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	14.4	14.8	14.3	14.4
Asia Oceania	8.1	8.1	8.5	7.7	7.8	8.3	8.1	8.5	7.6	7.6	8.1	7.9	8.4	7.4	7.5	8.1	7.8
Total OECD	46.5	47.0	46.9	47.0	47.7	48.1	47.4	47.8	47.2	48.1	48.2	47.8	47.8	47.7	48.4	48.4	48.1
NON-OECD DEMAND																	
FSU	4.6	4.5	4.3	4.5	4.7	4.6	4.5	4.5	4.6	4.9	4.7	4.7	4.5	4.7	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	13.1	13.3	13.0	13.2	13.5	13.6	13.8	13.5
Other Asia	12.5	13.1	13.3	13.5	13.3	13.7	13.4	13.8	14.0	13.5	14.1	13.8	14.2	14.4	13.9	14.4	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	6.3	6.3	6.4	6.4	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	8.2	8.6	8.9	8.3	8.5
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	48.8	49.5	49.7	51.1	50.8	50.6	50.5	50.5	51.5	51.7	52.0	51.4	51.6	52.7	52.9	53.0	52.6
Total Demand[1]	**95.3**	**96.4**	**96.6**	**98.1**	**98.4**	**98.7**	**98.0**	**98.3**	**98.7**	**99.8**	**100.1**	**99.2**	**99.5**	**100.4**	**101.3**	**101.4**	**100.7**
OECD SUPPLY																	
Americas[4]	20.0	19.5	20.0	19.8	20.3	21.2	20.3	21.7	22.2	23.3	23.5	22.7	23.4	23.7	24.1	24.1	23.8
Europe	3.5	3.5	3.7	3.5	3.4	3.4	3.5	3.6	3.3	3.2	3.4	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	0.5	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	27.3	26.5	27.2	27.5	27.9	28.1	27.7
NON-OECD SUPPLY																	
FSU	14.0	14.2	14.4	14.3	14.2	14.3	14.3	14.4	14.4	14.6	14.8	14.6	14.7	14.5	14.6	14.8	14.6
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	3.8	3.7	3.8
Other Asia[2]	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[2,4]	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[2]	1.5	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.5	1.5	1.4	1.4	1.5	1.5	1.4	1.4	1.4
Total Non-OECD	29.4	29.1	29.2	28.9	28.8	28.9	29.0	28.9	29.0	29.0	29.4	29.1	29.3	29.1	29.3	29.6	29.3
Processing gains[3]	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	2.8	2.5	2.5	2.1	2.8	3.0	2.5	2.6	2.3	2.8	3.1	2.7	2.7
Total Non-OPEC Supply	57.8	57.1	57.5	57.4	58.0	58.7	57.9	59.0	60.0	61.3	61.5	60.5	61.1	61.8	62.7	62.8	62.1
OPEC																	
Crude	32.1	33.0	32.3	32.6	33.0	32.6	32.6	32.3	32.1	32.6	32.8	32.5					
NGLs	6.5	6.8	6.9	6.9	6.9	6.8	6.9	6.9	6.9	6.9	7.0	6.9	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	39.7	39.4					
Total Supply[4]	**96.4**	**96.9**	**96.6**	**96.9**	**97.8**	**98.2**	**97.4**	**98.3**	**99.0**	**100.9**	**101.3**	**99.9**					
STOCK CHANGES AND MISCELLANEOUS																	
Reported OECD																	
Industry	0.8	0.0	0.3	-0.1	-0.5	-1.3	-0.4	-0.5	0.0	0.6							
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[5]	0.1	0.3	-0.2	-0.9	-0.4	-0.1	-0.4	1.4	0.2	0.9							
Total Stock Ch. & Misc	**1.1**	**0.5**	**0.1**	**-1.2**	**-0.6**	**-0.5**	**-0.6**	**0.0**	**0.4**	**1.1**	**1.1**	**0.7**					
Memo items:																	
Call on OPEC crude + Stock ch.[6]	30.9	32.6	32.2	33.8	33.5	33.1	33.2	32.3	31.8	31.5	31.6	31.8	31.4	31.7	31.6	31.6	31.6

1 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.
2 Other Asia includes Indonesia throughout. Latin America excludes Ecuador throughout. Africa excludes Angola, Gabon and Equatorial Guinea throughout.
3 Net volumetric gains and losses in the refining process and marine transportation losses.
4 Comprises crude oil, condensates, NGLs, oil from non-conventional sources and other sources of supply.
5 Includes changes in non-reported stocks in OECD and non-OECD areas.
6 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
OECD DEMAND																	
Americas	-	-	-	-	-	-	-	-	-	-	0.1	-	0.1	-	0.1	0.2	0.1
Europe	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Asia Oceania	-	-	-	-	-	-	-	-	-	-	-0.1	-	-	-	-	-0.1	-0.1
Total OECD	-	-	-	-	-	-	-	-	-	-	-	-	-	-0.1	-	-	-
NON-OECD DEMAND																	
FSU	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Europe	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
China	-	-	-	-	-	-	-	-	-	-	-0.1	-	-	-	-	-	-
Other Asia	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	-
Americas	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Middle East	-	-	-	-	-	-	-	-	-	-	-	-	0.1	0.1	-	0.1	0.1
Africa	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total Non-OECD	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	-0.1	0.1	0.2	0.1	0.1	0.1	0.1
Total Demand	**0.1**	**0.1**	**0.1**	**0.1**	**0.1**	**0.1**	**0.1**	**0.1**	**0.1**	**0.1**	**-0.1**	**0.1**	**0.2**	**-**	**0.1**	**0.1**	**0.1**
OECD SUPPLY																	
Americas	-	-	-	-	-	-	-	-	-	-	0.2	-	0.2	0.1	0.1	-0.1	0.1
Europe	-	-	-	-	-	-	-	-	-	-	0.1	-	-	-	-	-	-
Asia Oceania	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total OECD	-	-	-	-	-	-	-	-	-	-	0.3	0.1	0.2	0.2	0.2	-	0.1
NON-OECD SUPPLY																	
FSU	-	-	-	-	-	-	-	-	-0.1	-0.1	-	-	-	-0.1	-0.1	-0.1	-0.1
Europe	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
China	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Other Asia	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Americas	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Middle East	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Africa	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total Non-OECD	-	-	-	-	-	-	-	-0.1	-0.1	-	-	-	-	-	-0.1	-	-
Processing gains	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Global Biofuels	-	-	-	-	-	-	-	-	-	-	0.1	-	0.1	0.1	0.1	0.1	0.1
Total Non-OPEC Supply	-	-	-	-0.1	-0.1	-	-	-0.1	-	-	0.4	0.1	0.3	0.2	0.2	-	0.2
OPEC																	
Crude	-	-	-	-	-	-	-	-	-	-							
NGLs	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total OPEC	-	-	-	-	-	-	-	-	-	-							
Total Supply	**-**	**-**	**-**	**-0.1**	**-0.1**	**-**	**-**	**-0.1**	**-**	**-**							
STOCK CHANGES AND MISCELLANEOUS																	
REPORTED OECD																	
Industry	-	-	-	-	-	-	-	-	-	-							
Government	-	-	-	-	-	-	-	-	-	-							
Total	-	-	-	-	-	-	-	-	-	-							
Floating storage/Oil in transit	-	-	-	-	-	-	-	-	-	-							
Miscellaneous to balance	-0.1	-0.1	-0.1	-0.1	-0.2	-0.1	-0.1	-0.1	-0.2	-0.2							
Total Stock Ch. & Misc	**-0.1**	**-0.1**	**-0.1**	**-0.1**	**-0.2**	**-0.1**	**-0.1**	**-0.1**	**-0.2**	**-0.2**							
Memo items:																	
Call on OPEC crude + Stock ch.	0.1	0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.2	0.2	-0.4	-	-	-0.2	-0.1	0.1	-

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
Demand (mb/d)																
Americas	24.88	24.61	25.12	25.15	25.34	25.06	25.26	25.37	25.83	25.81	25.57	25.44	25.78	26.14	26.02	25.85
Europe	13.99	13.82	14.25	14.70	14.40	14.30	14.05	14.19	14.65	14.30	14.30	14.02	14.43	14.77	14.33	14.39
Asia Oceania	8.11	8.48	7.65	7.80	8.33	8.06	8.51	7.60	7.62	8.05	7.94	8.37	7.45	7.51	8.08	7.85
Total OECD	46.97	46.91	47.02	47.66	48.06	47.42	47.82	47.16	48.10	48.16	47.81	47.84	47.66	48.42	48.43	48.09
Asia	25.05	25.70	26.40	25.64	26.34	26.02	26.49	27.05	26.61	27.33	26.87	27.42	27.86	27.52	28.18	27.75
Middle East	8.49	8.24	8.67	8.88	8.23	8.51	8.11	8.45	8.70	8.29	8.39	8.18	8.64	8.89	8.31	8.51
Americas	6.44	6.34	6.46	6.56	6.45	6.45	6.33	6.36	6.47	6.44	6.40	6.28	6.34	6.40	6.36	6.35
FSU	4.51	4.30	4.51	4.73	4.60	4.54	4.48	4.63	4.94	4.73	4.70	4.54	4.73	5.00	4.91	4.80
Africa	4.25	4.36	4.29	4.19	4.26	4.28	4.33	4.28	4.16	4.39	4.29	4.46	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	0.79	0.76	0.75	0.77	0.79	0.80	0.78
Total Non-OECD	49.47	49.65	51.09	50.77	50.63	50.54	50.47	51.52	51.65	51.97	51.42	51.62	52.74	52.86	52.99	52.57
World	**96.44**	**96.57**	**98.11**	**98.42**	**98.70**	**97.96**	**98.30**	**98.67**	**99.75**	**100.13**	**99.23**	**99.46**	**100.40**	**101.28**	**101.42**	**100.65**
of which: US50	19.69	19.54	20.07	20.01	20.21	19.96	20.24	20.33	20.63	20.61	20.46	20.36	20.71	20.89	20.78	20.69
Europe 5*	8.15	8.16	8.28	8.44	8.24	8.28	8.18	8.20	8.32	8.25	8.24	8.16	8.27	8.40	8.21	8.26
China	11.99	12.44	12.88	12.33	12.65	12.58	12.72	13.05	13.14	13.28	13.05	13.17	13.48	13.63	13.78	13.52
Japan	4.01	4.30	3.58	3.63	4.06	3.89	4.27	3.43	3.53	3.96	3.80	4.19	3.35	3.46	3.92	3.73
India	4.44	4.46	4.67	4.42	4.72	4.57	4.82	4.91	4.52	4.89	4.78	5.06	5.16	4.77	5.10	5.02
Russia	3.33	3.14	3.31	3.50	3.34	3.32	3.29	3.39	3.67	3.44	3.45	3.32	3.46	3.71	3.55	3.51
Brazil	2.98	2.92	2.96	3.08	3.04	3.00	2.95	2.91	3.07	3.10	3.01	2.95	3.00	3.11	3.10	3.04
Saudi Arabia	3.30	2.93	3.41	3.62	3.13	3.27	2.93	3.18	3.32	3.05	3.12	2.86	3.33	3.49	3.15	3.21
Canada	2.47	2.37	2.36	2.52	2.52	2.45	2.32	2.34	2.56	2.53	2.44	2.37	2.35	2.57	2.53	2.46
Korea	2.61	2.62	2.49	2.57	2.65	2.58	2.63	2.55	2.48	2.47	2.53	2.58	2.48	2.45	2.52	2.51
Mexico	2.05	2.02	2.03	1.95	1.93	1.98	1.99	2.02	1.97	1.98	1.99	2.00	2.04	1.99	2.01	2.01
Iran	1.96	2.12	2.03	2.00	2.00	2.04	2.01	2.00	2.04	2.08	2.03	2.08	1.98	1.96	1.94	1.99
Total	**66.98**	**67.03**	**68.08**	**68.09**	**68.51**	**67.93**	**68.35**	**68.32**	**69.25**	**69.64**	**68.89**	**69.10**	**69.62**	**70.43**	**70.60**	**69.94**
% of World	69.4%	69.4%	69.4%	69.2%	69.4%	69.3%	69.5%	69.2%	69.4%	69.6%	69.4%	69.5%	69.3%	69.5%	69.6%	69.5%
Annual Change (% per annum)																
Americas	1.1	-0.5	2.1	-0.1	1.4	0.7	2.6	1.0	2.7	1.8	2.0	0.7	1.6	1.2	0.8	1.1
Europe	1.2	2.0	2.7	2.2	1.8	2.2	1.7	-0.5	-0.4	-0.7	0.0	-0.2	1.7	0.8	0.2	0.6
Asia Oceania	0.0	-1.4	-0.3	0.0	-0.2	-0.5	0.4	-0.7	-2.3	-3.3	-1.5	-1.6	-2.0	-1.5	0.3	-1.2
Total OECD	1.0	0.1	1.9	0.6	1.3	1.0	1.9	0.3	0.9	0.2	0.8	0.0	1.1	0.7	0.6	0.6
Asia	4.1	3.2	3.8	4.5	4.1	3.9	3.1	2.5	3.8	3.8	3.3	3.5	3.0	3.4	3.1	3.3
Middle East	-0.4	1.7	0.5	-0.3	-1.1	0.2	-1.6	-2.6	-2.0	0.7	-1.4	0.8	2.2	2.2	0.3	1.4
Americas	-4.1	-0.2	0.0	0.5	0.7	0.2	-0.1	-1.6	-1.5	-0.1	-0.8	-0.8	-0.2	-1.1	-1.3	-0.8
FSU	-1.3	-1.1	3.6	0.9	-1.1	0.5	4.3	2.7	4.5	2.8	3.6	1.2	2.0	1.3	3.9	2.1
Africa	1.1	1.7	-0.1	1.0	-0.5	0.5	-0.6	-0.2	-0.7	3.1	0.4	3.0	2.7	2.4	1.0	2.2
Europe	4.8	1.7	2.2	4.2	4.3	3.1	2.5	-0.9	1.4	4.2	1.7	2.3	3.1	2.7	0.8	2.3
Total Non-OECD	1.4	1.9	2.3	2.4	1.9	2.2	1.7	0.8	1.7	2.6	1.7	2.3	2.4	2.3	2.0	2.2
World	**1.2**	**1.0**	**2.1**	**1.5**	**1.6**	**1.6**	**1.8**	**0.6**	**1.4**	**1.4**	**1.3**	**1.2**	**1.8**	**1.5**	**1.3**	**1.4**
Annual Change (mb/d)																
Americas	0.28	-0.11	0.51	-0.03	0.36	0.18	0.65	0.25	0.68	0.47	0.51	0.18	0.42	0.31	0.22	0.28
Europe	0.16	0.27	0.37	0.31	0.26	0.31	0.23	-0.07	-0.06	-0.10	0.00	-0.03	0.24	0.12	0.03	0.09
Asia Oceania	0.00	-0.12	-0.02	0.00	-0.02	-0.04	0.03	-0.05	-0.18	-0.27	-0.12	-0.14	-0.15	-0.11	0.02	-0.10
Total OECD	0.45	0.04	0.86	0.28	0.60	0.45	0.91	0.13	0.44	0.09	0.39	0.01	0.51	0.32	0.27	0.28
Asia	0.98	0.79	0.97	1.09	1.04	0.97	0.79	0.65	0.97	0.99	0.85	0.93	0.81	0.90	0.85	0.87
Middle East	-0.04	0.14	0.04	-0.03	-0.09	0.01	-0.13	-0.22	-0.18	0.06	-0.12	0.07	0.19	0.19	0.02	0.12
Americas	-0.28	-0.01	0.00	0.03	0.04	0.02	-0.01	-0.10	-0.10	0.00	-0.05	-0.05	-0.01	-0.07	-0.08	-0.05
FSU	-0.06	-0.05	0.16	0.04	-0.05	0.02	0.18	0.12	0.21	0.13	0.16	0.06	0.09	0.06	0.18	0.10
Africa	0.05	0.07	-0.01	0.04	-0.02	0.02	-0.03	-0.01	-0.03	0.13	0.02	0.13	0.12	0.10	0.04	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
Total Non-OECD	0.68	0.95	1.17	1.21	0.95	1.07	0.82	0.43	0.89	1.34	0.87	1.15	1.22	1.21	1.02	1.15
World	**1.13**	**0.99**	**2.03**	**1.49**	**1.55**	**1.52**	**1.73**	**0.56**	**1.33**	**1.43**	**1.26**	**1.16**	**1.73**	**1.53**	**1.29**	**1.43**
Revisions to Oil Demand from Last Month's Report (mb/d)																
Americas	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.13	0.04	0.08	0.02	0.08	0.16	0.08
Europe	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	-0.01	0.00	0.00	-0.04	-0.04	-0.04	-0.03
Asia Oceania	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-0.10	-0.02	-0.03	-0.04	-0.04	-0.10	-0.05
Total OECD	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.03	0.01	0.05	-0.06	0.00	0.02	0.00
Asia	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.14	0.08	-0.09	0.05	0.10	0.04	0.03	-0.08	0.02
Middle East	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	-0.05	0.00	0.08	0.07	0.04	0.06	0.06
Americas	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.02	0.03	0.03	0.03
FSU	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-0.02	0.00	0.00	-0.03	-0.04	-0.04	0.05	-0.02
Africa	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.04	0.01	0.01	0.00	0.00	0.01	0.00
Europe	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00
Total Non-OECD	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.14	0.11	-0.09	0.06	0.18	0.09	0.06	0.07	0.10
World	**0.08**	**0.08**	**0.08**	**0.08**	**0.08**	**0.08**	**0.08**	**0.14**	**0.14**	**-0.06**	**0.07**	**0.23**	**0.04**	**0.06**	**0.09**	**0.10**
Revisions to Oil Demand Growth from Last Month's Report (mb/d)																
World	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06	-0.14	-0.01	0.15	-0.10	-0.08	0.15	0.03

* France, Germany, Italy, Spain and UK

Table 2a
OECD REGIONAL OIL DEMAND[1]
(million barrels per day)

	2016	2017	4Q17	1Q18	2Q18	3Q18	Aug 18	Sep 18	Oct 18 [2]	Latest month vs. Sep 18	Latest month vs. Oct 17
Americas											
LPG and ethane	3.32	3.33	3.55	3.99	3.29	3.48	3.49	3.49	3.55	0.06	0.39
Naphtha	0.34	0.34	0.33	0.28	0.27	0.31	0.31	0.32	0.34	0.02	0.01
Motor gasoline	11.09	11.11	11.04	10.73	11.28	11.29	11.53	10.92	11.13	0.21	0.00
Jet and kerosene	1.90	1.98	2.03	1.95	2.04	2.12	2.21	2.03	1.96	-0.06	-0.10
Gasoil/diesel oil	5.13	5.14	5.28	5.39	5.38	5.30	5.42	5.29	5.75	0.46	0.48
Residual fuel oil	0.63	0.68	0.67	0.63	0.68	0.71	0.72	0.70	0.66	-0.04	-0.04
Other products	2.47	2.47	2.44	2.31	2.42	2.62	2.84	2.40	2.69	0.30	0.20
Total	**24.87**	**25.06**	**25.34**	**25.26**	**25.37**	**25.83**	**26.52**	**25.14**	**26.09**	**0.95**	**0.94**
Europe											
LPG and ethane	1.16	1.12	1.11	1.24	1.11	1.14	1.21	1.07	1.06	-0.02	-0.02
Naphtha	1.10	1.18	1.22	1.16	1.03	1.05	1.05	1.04	0.93	-0.11	-0.28
Motor gasoline	1.88	1.89	1.85	1.82	2.00	2.01	2.06	1.92	1.90	-0.02	0.04
Jet and kerosene	1.37	1.46	1.41	1.36	1.54	1.70	1.71	1.69	1.59	-0.10	0.07
Gasoil/diesel oil	6.31	6.48	6.64	6.45	6.33	6.44	6.42	6.44	6.79	0.34	0.20
Residual fuel oil	0.88	0.89	0.93	0.89	0.88	0.90	0.89	0.85	0.86	0.01	-0.07
Other products	1.29	1.28	1.25	1.14	1.30	1.41	1.36	1.40	1.41	0.02	0.11
Total	**13.99**	**14.30**	**14.40**	**14.05**	**14.19**	**14.65**	**14.70**	**14.41**	**14.53**	**0.12**	**0.05**
Asia Oceania											
LPG and ethane	0.78	0.75	0.73	0.82	0.72	0.65	0.65	0.63	0.63	0.00	-0.03
Naphtha	1.98	2.04	2.13	2.04	1.92	1.97	1.96	2.00	1.97	-0.03	-0.14
Motor gasoline	1.55	1.54	1.56	1.51	1.51	1.59	1.65	1.53	1.45	-0.08	-0.06
Jet and kerosene	0.90	0.91	1.05	1.18	0.74	0.72	0.71	0.76	0.83	0.07	-0.01
Gasoil/diesel oil	1.82	1.89	1.95	1.95	1.90	1.88	1.87	1.88	1.86	-0.02	0.05
Residual fuel oil	0.65	0.58	0.58	0.66	0.49	0.52	0.56	0.48	0.54	0.07	0.04
Other products	0.42	0.35	0.32	0.35	0.32	0.30	0.30	0.24	0.23	-0.02	-0.07
Total	**8.11**	**8.06**	**8.33**	**8.51**	**7.60**	**7.62**	**7.71**	**7.52**	**7.50**	**-0.01**	**-0.21**
OECD											
LPG and ethane	5.25	5.20	5.39	6.05	5.12	5.27	5.35	5.19	5.23	0.04	0.34
Naphtha	3.43	3.56	3.67	3.48	3.22	3.33	3.33	3.36	3.24	-0.12	-0.41
Motor gasoline	14.53	14.55	14.46	14.05	14.79	14.88	15.25	14.36	14.48	0.12	-0.02
Jet and kerosene	4.17	4.35	4.48	4.49	4.33	4.54	4.63	4.47	4.38	-0.09	-0.03
Gasoil/diesel oil	13.26	13.51	13.87	13.78	13.61	13.62	13.71	13.61	14.40	0.79	0.73
Residual fuel oil	2.16	2.15	2.18	2.18	2.05	2.13	2.16	2.03	2.07	0.04	-0.07
Other products	4.18	4.10	4.01	3.79	4.04	4.33	4.50	4.04	4.33	0.29	0.23
Total	**46.97**	**47.42**	**48.06**	**47.82**	**47.16**	**48.10**	**48.93**	**47.07**	**48.12**	**1.06**	**0.77**

1 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.
2 Latest official OECD submissions (MOS).

Table 2b
OIL DEMAND IN SELECTED OECD COUNTRIES[1]
(million barrels per day)

	2016	2017	4Q17	1Q18	2Q18	3Q18	Aug 18	Sep 18	Oct 18 [2]	Latest month vs. Sep 18	Latest month vs. Oct 17
United States[3]											
LPG and ethane	2.47	2.54	2.73	3.12	2.58	2.68	2.72	2.67	2.78	0.11	0.38
Naphtha	0.22	0.23	0.22	0.21	0.20	0.24	0.25	0.25	0.27	0.02	0.05
Motor gasoline	9.32	9.33	9.24	9.01	9.51	9.51	9.75	9.12	9.27	0.16	-0.08
Jet and kerosene	1.62	1.69	1.73	1.65	1.73	1.78	1.86	1.70	1.67	-0.03	-0.09
Gasoil/diesel oil	3.88	3.93	4.05	4.18	4.13	4.05	4.17	4.01	4.38	0.37	0.37
Residual fuel oil	0.33	0.34	0.34	0.28	0.32	0.34	0.31	0.36	0.31	-0.06	-0.02
Other products	1.86	1.90	1.89	1.78	1.86	2.04	2.25	1.85	2.11	0.26	0.17
Total	**19.69**	**19.96**	**20.21**	**20.24**	**20.33**	**20.63**	**21.30**	**19.95**	**20.77**	**0.82**	**0.78**
Japan											
LPG and ethane	0.42	0.39	0.39	0.46	0.35	0.31	0.31	0.30	0.31	0.01	0.00
Naphtha	0.75	0.77	0.79	0.75	0.66	0.70	0.71	0.71	0.78	0.07	0.01
Motor gasoline	0.90	0.88	0.89	0.84	0.85	0.92	0.97	0.87	0.82	-0.04	-0.03
Jet and kerosene	0.51	0.51	0.62	0.73	0.37	0.33	0.33	0.36	0.42	0.06	-0.02
Diesel	0.44	0.43	0.44	0.43	0.44	0.45	0.44	0.47	0.47	0.00	0.06
Other gasoil	0.35	0.35	0.37	0.40	0.29	0.28	0.28	0.29	0.30	0.00	-0.02
Residual fuel oil	0.33	0.28	0.28	0.34	0.23	0.27	0.28	0.24	0.29	0.05	0.04
Other products	0.32	0.28	0.28	0.31	0.24	0.27	0.27	0.26	0.22	-0.04	-0.03
Total	**4.01**	**3.89**	**4.06**	**4.27**	**3.43**	**3.53**	**3.60**	**3.50**	**3.62**	**0.13**	**0.03**
Germany											
LPG and ethane	0.10	0.13	0.12	0.11	0.13	0.11	0.11	0.11	0.09	-0.02	-0.02
Naphtha	0.37	0.38	0.38	0.32	0.31	0.29	0.30	0.27	0.26	-0.01	-0.09
Motor gasoline	0.42	0.43	0.42	0.45	0.45	0.45	0.46	0.44	0.42	-0.02	0.00
Jet and kerosene	0.20	0.22	0.21	0.19	0.23	0.24	0.23	0.24	0.22	-0.03	0.00
Diesel	0.76	0.76	0.76	0.70	0.74	0.76	0.77	0.76	0.76	0.00	-0.01
Other gasoil	0.36	0.37	0.36	0.41	0.27	0.29	0.29	0.34	0.39	0.06	0.04
Residual fuel oil	0.09	0.08	0.10	0.09	0.08	0.07	0.07	0.05	0.05	0.00	-0.04
Other products	0.09	0.09	0.09	0.07	0.09	0.12	0.12	0.12	0.14	0.02	0.03
Total	**2.38**	**2.46**	**2.43**	**2.34**	**2.29**	**2.33**	**2.36**	**2.32**	**2.32**	**0.00**	**-0.09**
Italy											
LPG and ethane	0.10	0.10	0.11	0.12	0.09	0.09	0.09	0.08	0.09	0.01	0.00
Naphtha	0.08	0.09	0.09	0.09	0.06	0.07	0.07	0.09	0.05	-0.04	-0.04
Motor gasoline	0.17	0.16	0.15	0.15	0.17	0.17	0.18	0.15	0.16	0.01	0.01
Jet and kerosene	0.09	0.11	0.09	0.09	0.11	0.13	0.13	0.13	0.12	-0.01	0.00
Diesel	0.47	0.47	0.48	0.50	0.50	0.49	0.48	0.48	0.52	0.04	0.03
Other gasoil	0.08	0.08	0.09	0.07	0.08	0.09	0.08	0.09	0.10	0.01	0.00
Residual fuel oil	0.08	0.08	0.07	0.08	0.08	0.07	0.07	0.07	0.08	0.01	0.00
Other products	0.16	0.15	0.16	0.15	0.17	0.18	0.16	0.18	0.19	0.01	0.02
Total	**1.24**	**1.24**	**1.25**	**1.25**	**1.27**	**1.29**	**1.26**	**1.28**	**1.32**	**0.03**	**0.02**
France											
LPG and ethane	0.12	0.11	0.11	0.14	0.10	0.09	0.10	0.09	0.09	0.01	0.00
Naphtha	0.11	0.11	0.08	0.12	0.14	0.13	0.15	0.11	0.09	-0.02	0.01
Motor gasoline	0.17	0.18	0.18	0.17	0.20	0.20	0.21	0.19	0.20	0.01	0.03
Jet and kerosene	0.15	0.16	0.15	0.15	0.17	0.19	0.19	0.19	0.18	-0.01	0.02
Diesel	0.70	0.72	0.72	0.70	0.71	0.70	0.68	0.68	0.75	0.07	0.04
Other gasoil	0.25	0.25	0.26	0.27	0.19	0.23	0.22	0.26	0.29	0.03	0.05
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	0.13	0.14	0.16	0.02	0.05
Total	**1.65**	**1.71**	**1.66**	**1.71**	**1.69**	**1.74**	**1.71**	**1.70**	**1.82**	**0.12**	**0.20**
United Kingdom											
LPG and ethane	0.15	0.14	0.13	0.14	0.14	0.12	0.12	0.13	0.12	-0.02	-0.02
Naphtha	0.03	0.03	0.03	0.03	0.02	0.03	0.03	0.03	0.02	0.00	-0.01
Motor gasoline	0.29	0.29	0.28	0.27	0.29	0.28	0.28	0.30	0.26	-0.03	-0.01
Jet and kerosene	0.32	0.32	0.33	0.34	0.33	0.34	0.35	0.34	0.35	0.00	0.02
Diesel	0.52	0.52	0.54	0.52	0.53	0.53	0.53	0.55	0.50	-0.05	-0.02
Other gasoil	0.13	0.14	0.14	0.13	0.15	0.16	0.17	0.16	0.14	-0.01	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	0.01
Other products	0.12	0.12	0.12	0.11	0.12	0.13	0.14	0.13	0.12	-0.01	-0.01
Total	**1.58**	**1.58**	**1.60**	**1.57**	**1.62**	**1.61**	**1.63**	**1.66**	**1.54**	**-0.12**	**-0.03**
Canada											
LPG and ethane	0.41	0.39	0.43	0.42	0.30	0.38	0.35	0.40	0.36	-0.04	0.00
Naphtha	0.10	0.10	0.10	0.06	0.05	0.05	0.05	0.05	0.05	0.00	-0.05
Motor gasoline	0.84	0.85	0.84	0.78	0.83	0.88	0.87	0.90	0.92	0.03	0.08
Jet and kerosene	0.14	0.15	0.15	0.14	0.16	0.19	0.20	0.19	0.15	-0.04	-0.01
Diesel	0.30	0.29	0.29	0.26	0.27	0.26	0.26	0.27	0.25	-0.01	-0.03
Other gasoil	0.28	0.27	0.30	0.28	0.29	0.34	0.35	0.36	0.43	0.07	0.09
Residual fuel oil	0.05	0.06	0.05	0.06	0.09	0.07	0.07	0.06	0.08	0.01	0.03
Other products	0.36	0.35	0.36	0.32	0.36	0.38	0.38	0.36	0.37	0.01	0.01
Total	**2.47**	**2.45**	**2.52**	**2.32**	**2.34**	**2.56**	**2.54**	**2.59**	**2.62**	**0.03**	**0.12**

1 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.
2 Latest official OECD submissions (MOS).
3 US figures exclude US territories.

Table 3
WORLD OIL PRODUCTION
(million barrels per day)

	2017	2018	2019	3Q18	4Q18	1Q19	2Q19	3Q19	Oct 18	Nov 18	Dec 18
OPEC											
Crude Oil											
Saudi Arabia	9.96	10.33		10.43	10.78				10.65	11.06	10.64
Iran	3.81	3.58		3.62	3.03				3.32	2.97	2.80
Iraq	4.47	4.56		4.65	4.65				4.65	4.60	4.70
UAE	2.93	3.00		3.00	3.27				3.22	3.33	3.26
Kuwait	2.71	2.75		2.79	2.78				2.76	2.78	2.80
Neutral Zone	0.00	0.00		0.00	0.00				0.00	0.00	0.00
Qatar	0.61	0.61		0.61	0.61				0.61	0.61	0.60
Angola	1.64	1.50		1.48	1.47				1.48	1.44	1.48
Nigeria	1.53	1.61		1.62	1.64				1.65	1.62	1.66
Libya	0.83	0.97		0.90	1.08				1.15	1.11	0.99
Algeria	1.05	1.04		1.06	1.07				1.07	1.07	1.06
Congo	0.26	0.33		0.33	0.33				0.33	0.33	0.34
Gabon	0.20	0.19		0.19	0.17				0.18	0.16	0.18
Equatorial Guinea	0.13	0.12		0.12	0.12				0.11	0.12	0.12
Ecuador	0.53	0.52		0.53	0.52				0.52	0.52	0.51
Venezuela	1.97	1.37		1.30	1.26				1.27	1.26	1.25
Total Crude Oil	32.62	32.46		32.62	32.78				32.97	32.98	32.39
Total NGLs[1]	6.88	6.95	6.97	6.95	6.97	6.97	6.97	6.97	6.97	6.97	6.97
Total OPEC[2]	**39.49**	**39.41**		**39.57**	**39.75**				**39.94**	**39.95**	**39.36**
NON-OPEC[2,3]											
OECD											
Americas	20.32	22.67	23.83	23.30	23.48	23.38	23.66	24.12	23.58	23.52	23.33
United States	13.27	15.42	16.75	15.97	16.22	16.29	16.74	16.96	16.27	16.27	16.13
Mexico	2.23	2.08	1.92	2.07	1.97	1.95	1.93	1.91	1.99	1.94	1.97
Canada	4.82	5.17	5.14	5.25	5.28	5.12	4.98	5.24	5.30	5.31	5.22
Chile	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Europe	3.49	3.39	3.38	3.24	3.41	3.41	3.34	3.32	3.42	3.41	3.41
UK	1.01	1.03	1.10	0.95	1.03	1.09	1.09	1.06	1.05	1.01	1.04
Norway	1.97	1.85	1.76	1.79	1.86	1.80	1.72	1.74	1.86	1.88	1.85
Others	0.51	0.51	0.52	0.49	0.52	0.52	0.52	0.53	0.52	0.51	0.52
Asia Oceania	0.39	0.41	0.49	0.42	0.45	0.46	0.48	0.50	0.45	0.45	0.45
Australia	0.31	0.34	0.42	0.35	0.38	0.39	0.41	0.43	0.38	0.38	0.38
Others	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07
Total OECD	**24.20**	**26.48**	**27.70**	**26.95**	**27.34**	**27.24**	**27.48**	**27.94**	**27.44**	**27.37**	**27.19**
NON-OECD											
Former USSR	14.30	14.56	14.63	14.60	14.82	14.68	14.46	14.58	14.68	14.88	14.90
Russia	11.32	11.49	11.59	11.59	11.75	11.58	11.48	11.57	11.75	11.70	11.78
Others	2.98	3.06	3.04	3.00	3.07	3.10	2.98	3.02	2.94	3.17	3.11
Asia[2]	7.34	7.17	7.01	7.10	7.15	7.08	7.03	6.97	7.16	7.16	7.13
China	3.87	3.83	3.78	3.81	3.86	3.81	3.81	3.76	3.87	3.87	3.84
Malaysia	0.72	0.72	0.71	0.69	0.72	0.72	0.69	0.69	0.70	0.72	0.73
India	0.86	0.84	0.82	0.83	0.82	0.82	0.82	0.83	0.83	0.82	0.82
Indonesia	0.84	0.80	0.77	0.79	0.78	0.78	0.77	0.77	0.78	0.79	0.78
Others	1.05	0.98	0.93	0.97	0.96	0.95	0.94	0.93	0.97	0.97	0.95
Europe	0.13	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12
Americas[2]	4.54	4.50	4.87	4.42	4.55	4.67	4.80	4.94	4.55	4.50	4.60
Brazil	2.74	2.70	3.06	2.63	2.72	2.85	2.99	3.14	2.72	2.67	2.78
Argentina	0.57	0.58	0.59	0.58	0.59	0.59	0.59	0.59	0.59	0.59	0.59
Colombia	0.86	0.87	0.87	0.87	0.89	0.89	0.88	0.87	0.89	0.89	0.89
Others	0.37	0.35	0.34	0.33	0.35	0.35	0.34	0.34	0.35	0.35	0.35
Middle East[2,4]	1.25	1.26	1.26	1.27	1.29	1.26	1.25	1.26	1.29	1.29	1.29
Oman	0.98	0.99	0.98	0.99	1.01	0.98	0.97	0.98	1.00	1.01	1.01
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	0.22	0.21	0.21
Africa	1.41	1.45	1.45	1.47	1.43	1.46	1.46	1.44	1.44	1.42	1.42
Egypt	0.64	0.65	0.63	0.65	0.65	0.64	0.63	0.63	0.65	0.65	0.65
Others	0.77	0.80	0.82	0.82	0.78	0.82	0.82	0.82	0.79	0.77	0.77
Total Non-OECD	**28.96**	**29.05**	**29.34**	**28.98**	**29.36**	**29.27**	**29.11**	**29.31**	**29.24**	**29.37**	**29.46**
Processing gains[5]	2.29	2.32	2.35	2.32	2.32	2.35	2.35	2.35	2.32	2.32	2.32
Global Biofuels	2.46	2.62	2.73	3.05	2.51	2.26	2.83	3.10	2.73	2.54	2.27
TOTAL NON-OPEC	**57.91**	**60.47**	**62.11**	**61.30**	**61.53**	**61.12**	**61.77**	**62.70**	**61.74**	**61.60**	**61.24**
TOTAL SUPPLY	**97.41**	**99.88**		**100.87**	**101.28**				**101.68**	**101.55**	**100.60**

1 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.
2 Latin America excludes Ecuador throughout. Africa excludes Angola, Congo, Gabon and Equatorial Guinea throughout. Asia includes Indonesia throughout.
3 Comprises crude oil, condensates, NGLs and oil from non-conventional sources
4 Includes small amounts of production from Jordan and Bahrain.
5 Net volumetric gains and losses in refining and marine transportation losses.

Table 4
OECD INDUSTRY STOCKS[1] AND QUARTERLY STOCK CHANGES

	RECENT MONTHLY STOCKS[2] in Million Barrels					PRIOR YEARS' STOCKS[2] in Million Barrels			STOCK CHANGES in mb/d			
	Jul2018	Aug2018	Sep2018	Oct2018	Nov2018*	Nov2015	Nov2016	Nov2017	4Q2017	1Q2018	2Q2018	3Q2018
OECD Americas												
Crude	563.2	566.8	572.3	595.5	607.9	615.4	647.9	610.4	-0.48	0.04	-0.14	0.00
Motor Gasoline	264.7	267.6	270.2	262.3	260.1	254.9	265.4	254.3	0.17	0.06	-0.07	0.04
Middle Distillate	199.3	205.1	216.2	195.9	192.6	226.7	235.5	203.1	0.09	-0.15	-0.16	0.27
Residual Fuel Oil	34.7	34.2	35.2	34.6	33.5	50.2	47.7	35.7	-0.06	0.06	-0.06	0.00
Total Products[3]	723.2	741.9	764.7	734.0	713.1	763.8	788.7	720.7	-0.10	-0.35	0.06	0.61
Total[4]	1478.3	1506.6	1541.3	1532.7	1522.9	1563.8	1625.4	1524.1	-0.79	-0.34	0.03	0.76
OECD Europe												
Crude	352.7	341.6	326.8	329.0	328.1	346.0	345.3	347.2	-0.08	0.16	0.12	-0.30
Motor Gasoline	83.6	83.5	85.1	86.6	88.7	91.6	93.8	92.1	0.13	-0.03	-0.14	0.01
Middle Distillate	265.3	278.2	273.4	251.8	247.5	308.0	312.7	265.8	-0.24	-0.03	-0.12	0.17
Residual Fuel Oil	61.5	60.8	58.2	57.7	57.5	74.7	69.5	60.4	0.00	0.03	-0.01	-0.03
Total Products[3]	530.5	541.2	535.2	514.2	510.6	571.0	577.2	531.2	-0.13	0.03	-0.27	0.16
Total[4]	964.5	961.2	938.0	922.2	918.1	983.1	995.9	952.6	-0.24	0.25	-0.13	-0.22
OECD Asia Oceania												
Crude	158.5	157.6	139.8	157.3	159.0	191.0	194.6	188.1	-0.10	-0.31	0.01	-0.24
Motor Gasoline	24.7	23.7	24.0	25.9	26.0	23.4	23.0	23.7	0.00	0.01	0.00	0.00
Middle Distillate	71.6	73.0	77.7	74.1	79.3	65.9	65.7	65.9	-0.04	-0.01	0.04	0.13
Residual Fuel Oil	19.7	19.1	19.5	18.6	19.6	23.6	20.0	21.1	0.00	-0.01	0.03	-0.01
Total Products[3]	172.0	173.1	184.3	182.3	189.2	170.1	171.9	176.1	-0.08	-0.04	0.04	0.22
Total[4]	393.8	396.7	389.5	404.7	416.1	428.2	430.0	426.9	-0.23	-0.38	0.11	0.02
Total OECD												
Crude	1074.3	1065.9	1038.9	1081.8	1095.0	1152.5	1187.8	1145.6	-0.66	-0.11	-0.01	-0.55
Motor Gasoline	373.0	374.8	379.3	374.8	374.8	369.9	382.3	370.0	0.30	0.05	-0.20	0.05
Middle Distillate	536.2	556.3	567.3	521.8	519.4	600.6	613.9	534.8	-0.19	-0.19	-0.24	0.58
Residual Fuel Oil	115.9	114.0	112.9	110.9	110.6	148.4	137.1	117.2	-0.05	0.09	-0.04	-0.04
Total Products[3]	1425.7	1456.1	1484.2	1430.5	1412.9	1504.9	1537.8	1427.9	-0.31	-0.36	-0.18	0.98
Total[4]	2836.5	2864.4	2868.7	2859.6	2857.1	2975.0	3051.3	2903.5	-1.26	-0.46	0.01	0.56

OECD GOVERNMENT-CONTROLLED STOCKS[5] AND QUARTERLY STOCK CHANGES

	RECENT MONTHLY STOCKS[2] in Million Barrels					PRIOR YEARS' STOCKS[2] in Million Barrels			STOCK CHANGES in mb/d			
	Jul2018	Aug2018	Sep2018	Oct2018	Nov2018*	Nov2015	Nov2016	Nov2017	4Q2017	1Q2018	2Q2018	3Q2018
OECD Americas												
Crude	660.0	660.0	660.0	654.8	649.7	695.1	695.1	661.3	-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
OECD Europe												
Crude	208.1	208.2	209.1	210.2	209.6	205.5	208.8	207.0	-0.02	0.02	0.01	0.01
Products	274.5	271.2	269.4	265.6	265.3	259.3	272.3	266.7	0.04	0.04	-0.01	-0.04
OECD Asia Oceania												
Crude	383.3	383.3	383.4	382.7	382.7	381.5	385.7	385.4	-0.01	-0.01	0.00	0.00
Products	38.7	38.7	38.7	38.7	38.7	33.9	36.7	38.6	0.00	0.00	0.00	0.00
Total OECD												
Crude	1251.4	1251.5	1252.5	1247.7	1242.0	1282.1	1289.6	1253.7	-0.15	0.04	-0.05	0.01
Products	315.2	311.9	310.2	306.3	306.0	295.2	311.0	307.4	0.04	0.04	-0.01	-0.04
Total[4]	1569.8	1566.6	1565.2	1556.9	1550.8	1581.7	1602.9	1564.6	-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[1]

('millions of barrels' and 'days')

	End September 2017		End December 2017		End March 2018		End June 2018		End September 2018 [3]	
	Stock Level	Days Fwd[2] Demand	Stock Level	Days Fwd Demand	Stock Level	Days Fwd Demand	Stock Level	Days Fwd Demand	Stock Level	Days Fwd Demand
OECD Americas										
Canada	185.7	74	189.2	81	191.9	82	190.3	74	195.5	-
Chile	12.5	35	11.5	31	10.8	29	12.3	34	11.6	-
Mexico	46.5	24	43.8	22	47.3	23	39.1	20	40.6	-
United States[4]	1979.8	98	1896.6	94	1863.8	92	1869.2	91	1933.6	-
Total[4]	2246.6	89	2163.2	86	2135.9	84	2133.1	83	2203.3	85
OECD Asia Oceania										
Australia	33.7	28	34.2	29	40.3	33	42.4	35	42.6	-
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	811.6	101
OECD Europe[5]										
Austria	22.1	83	21.4	84	23.0	83	21.2	74	20.2	-
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	119	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	24.1	-
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	52	78.5	-
Total	1443.9	100	1422.6	101	1455.1	103	1443.5	99	1419.0	99
Total OECD	**4547.0**	**95**	**4420.8**	**92**	**4391.1**	**93**	**4386.4**	**91**	**4434.0**	**92**
DAYS OF IEA Net Imports[6]	**-**	**192**	**-**	**187**	**-**	**186**	**-**	**190**	**-**	**191**

1 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 entrepot 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.

2 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.

3 End September 2018 forward demand figures are IEA Secretariat forecasts.

4 US figures exclude US territories. Total includes US territories.

5 Data not available for Iceland.

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

TOTAL OECD STOCKS

CLOSING STOCKS	Total	Government[1] controlled	Industry	Total	Government[1] controlled	Industry
		Millions of Barrels			*Days of Fwd. Demand[2]*	
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	4434	1565	2869	92	33	60

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

2 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[1]
(million barrels per day)

	2015	2016	2017	4Q17	1Q18	2Q18	3Q18	Aug 18	Sep 18	Oct 18	Year Earlier Oct 17	Year Earlier change
Saudi Light & Extra Light												
Americas	0.63	0.69	0.59	0.47	0.54	0.79	0.64	0.58	0.69	0.73	0.43	0.30
Europe	0.78	0.79	0.69	0.68	0.58	0.70	0.76	0.74	0.79	0.71	0.70	0.01
Asia Oceania	1.25	1.40	1.56	1.53	1.50	1.42	1.36	1.49	1.26	1.57	1.36	0.22
Saudi Medium												
Americas	0.37	0.44	0.33	0.27	0.20	0.28	0.37	0.49	0.34	0.35	0.18	0.17
Europe	0.03	0.01	0.01	0.02	0.02	0.01	0.01	0.01	-	-	0.04	-
Asia Oceania	0.44	0.41	0.37	0.41	0.40	0.42	0.41	0.45	0.43	0.46	0.26	0.20
Canada Heavy												
Americas	1.90	2.04	2.23	2.17	2.33	2.48	2.39	2.44	2.33	2.39	2.13	0.26
Europe	0.01	0.01	0.02	0.04	0.03	0.04	0.05	0.04	0.07	0.02	0.03	-0.01
Asia Oceania	-	-	-	-	0.00	0.00	-	-	-	-	-	-
Iraqi Basrah Light[2]												
Americas	0.17	0.42	0.63	0.75	0.66	0.63	0.41	0.21	0.42	0.45	0.73	-0.27
Europe	0.72	0.81	0.76	0.70	0.65	0.61	0.87	0.96	0.89	0.98	0.77	0.21
Asia Oceania	0.41	0.46	0.40	0.39	0.42	0.48	0.42	0.41	0.38	0.41	0.30	0.11
Kuwait Blend												
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	0.17	0.22	0.18	0.09	0.17	-0.08
Asia Oceania	0.65	0.66	0.68	0.67	0.68	0.66	0.67	0.67	0.71	0.61	0.63	-0.02
Iranian Light												
Americas	-	-	-	-	-	-	-	-	-	-	-	-
Europe	0.09	0.21	0.27	0.20	0.24	0.26	0.13	0.12	0.11	0.06	0.14	-0.08
Asia Oceania	0.01	0.01	0.01	0.01	0.02	0.01	0.01	0.01	0.03	-	0.02	-
Iranian Heavy[3]												
Americas	-	-	-	-	-	-	-	-	-	-	-	-
Europe	0.02	0.21	0.52	0.54	0.42	0.44	0.41	0.45	0.29	0.32	0.61	-0.29
Asia Oceania	0.27	0.52	0.57	0.54	0.49	0.36	0.24	0.23	0.12	0.05	0.58	-0.53
BFOE												
Americas	0.01	0.02	0.02	0.01	-	0.00	0.00	-	-	-	0.02	-
Europe	0.49	0.44	0.45	0.52	0.41	0.25	0.43	0.47	0.38	0.31	0.39	-0.08
Asia Oceania	0.06	0.05	0.10	0.14	0.09	0.09	0.07	0.13	-	0.12	0.13	-0.01
Kazakhstan												
Americas	0.00	0.01	-	-	-	-	-	-	-	-	-	-
Europe	0.64	0.70	0.75	0.72	0.84	0.73	0.70	0.81	0.50	0.59	0.64	-0.05
Asia Oceania	0.06	0.03	0.10	0.13	0.13	0.19	0.21	0.20	0.14	0.20	0.10	0.10
Venezuelan 22 API and heavier												
Americas	0.67	0.63	0.48	0.39	0.40	0.47	0.45	0.39	0.34	0.46	0.43	0.03
Europe	0.09	0.05	0.04	0.03	0.02	0.02	0.03	0.03	0.04	0.03	0.05	-0.02
Asia Oceania	-	-	-	-	-	-	-	-	-	-	-	-
Mexican Maya												
Americas	0.50	0.53	0.58	0.67	0.64	0.63	0.75	0.84	0.69	0.53	0.68	-0.15
Europe	0.15	0.17	0.20	0.26	0.27	0.22	0.17	0.13	0.17	0.13	0.32	-0.19
Asia Oceania	0.01	0.05	0.07	0.10	0.06	0.10	0.08	0.03	0.07	0.12	0.11	0.01
Russian Urals												
Americas	-	-	0.01	0.01	-	-	-	-	-	0.02	0.02	0.00
Europe	1.61	1.72	1.64	1.67	1.38	1.46	1.37	1.45	1.27	1.27	1.76	-0.49
Asia Oceania	-	-	0.01	-	-	0.01	-	-	-	-	-	-
Cabinda and Other Angola												
North America	0.11	0.16	0.07	0.07	-	0.10	0.11	0.10	0.08	0.07	0.08	-0.01
Europe	0.42	0.27	0.11	0.10	0.14	0.11	0.22	0.27	0.22	0.06	0.06	0.00
Pacific	0.02	0.01	0.01	-	-	0.00	-	-	-	0.03	-	-
Nigerian Light[4]												
Americas	0.02	0.07	0.04	0.06	0.03	0.01	-	-	-	-	0.18	-
Europe	0.57	0.39	0.39	0.38	0.48	0.49	0.54	0.56	0.60	0.58	0.43	0.15
Asia Oceania	-	0.01	0.02	0.01	0.02	0.03	0.01	-	0.01	0.02	0.04	-0.02
Libya Light and Medium												
Americas	-	-	0.02	0.03	-	-	-	-	-	-	-	-
Europe	0.22	0.20	0.54	0.70	0.65	0.64	0.55	0.50	0.78	0.79	0.55	0.25
Asia Oceania	0.01	0.02	0.03	0.03	0.02	0.01	0.02	0.02	0.02	0.03	0.03	0.00

1 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.
2 Iraqi Total minus Kirkuk.
3 Iranian Total minus Iranian Light.
4 33° API and lighter (e.g., Bonny Light, Escravos, Qua Iboe and Oso Condensate).

Table 7
REGIONAL OECD IMPORTS[1,2]
(thousand barrels per day)

	2015	2016	2017	4Q17	1Q18	2Q18	3Q18	Aug 18	Sep 18	Oct 18	Year Earlier Oct 17	Year Earlier % change
Crude Oil												
Americas	4026	4542	4361	3941	3827	4085	3905	3899	3744	3241	4130	-22%
Europe	9505	9253	9711	9935	9502	9433	9728	9814	9439	9591	9810	-2%
Asia Oceania	6573	6659	6842	6942	6849	6571	6513	6853	5882	6788	6576	3%
Total OECD	20103	20455	20914	20818	20178	20089	20146	20566	19066	19621	20516	-4%
LPG												
Americas	10	20	20	25	33	14	17	16	25	21	20	6%
Europe	418	445	437	400	492	469	430	415	442	490	395	24%
Asia Oceania	518	567	549	538	595	567	503	542	525	536	530	1%
Total OECD	947	1032	1006	963	1120	1050	951	972	992	1047	945	11%
Naphtha												
Americas	14	10	19	20	10	5	6	3	5	26	31	-15%
Europe	345	348	369	389	408	371	338	335	375	437	402	9%
Asia Oceania	950	908	981	991	1031	958	1007	922	1057	1048	1057	-1%
Total OECD	1309	1266	1369	1399	1450	1334	1351	1260	1436	1511	1489	1%
Gasoline[3]												
Americas	670	735	727	560	559	1060	968	1047	876	653	795	-18%
Europe	105	100	162	224	155	67	85	53	114	107	209	-49%
Asia Oceania	91	87	103	94	123	123	92	105	60	120	96	25%
Total OECD	866	922	991	879	837	1250	1144	1205	1050	880	1100	-20%
Jet & Kerosene												
Americas	141	169	171	210	131	136	178	176	179	106	279	-62%
Europe	445	504	506	535	426	538	599	631	541	519	538	-3%
Asia Oceania	66	73	77	87	112	60	53	42	55	88	84	4%
Total OECD	651	745	754	832	669	733	829	849	776	713	901	-21%
Gasoil/Diesel												
Americas	76	67	77	144	179	63	130	160	137	124	75	65%
Europe	1161	1340	1381	1360	1403	1381	1455	1440	1319	1206	1317	-8%
Asia Oceania	158	196	195	179	214	256	232	214	225	332	177	88%
Total OECD	1395	1602	1654	1684	1795	1700	1816	1814	1681	1662	1568	6%
Heavy Fuel Oil												
Americas	116	149	131	128	158	161	195	198	204	170	116	47%
Europe	537	477	240	174	239	227	249	282	154	171	225	-24%
Asia Oceania	173	153	146	153	192	156	151	160	190	112	150	-26%
Total OECD	826	779	517	456	589	544	595	641	548	452	490	-8%
Other Products												
Americas	675	652	717	745	722	658	699	719	721	711	734	-3%
Europe	701	774	1009	979	1058	979	1126	1071	1019	874	833	5%
Asia Oceania	345	348	255	248	277	250	255	295	249	279	230	21%
Total OECD	1721	1774	1981	1972	2057	1886	2080	2084	1989	1864	1797	4%
Total Products												
Americas	1702	1802	1862	1832	1793	2095	2194	2320	2147	1811	2050	-12%
Europe	3712	3988	4104	4062	4181	4031	4282	4228	3964	3805	3917	-3%
Asia Oceania	2301	2331	2306	2292	2543	2371	2292	2279	2361	2514	2324	8%
Total OECD	7715	8121	8272	8185	8517	8496	8768	8826	8473	8130	8291	-2%
Total Oil												
Americas	5728	6344	6223	5773	5620	6180	6100	6218	5891	5053	6180	-18%
Europe	13216	13241	13815	13996	13683	13464	14009	14042	13404	13396	13727	-2%
Asia Oceania	8874	8991	9147	9234	9392	8942	8805	9131	8243	9302	8900	5%
Total OECD	27818	28575	29186	29003	28695	28586	28914	29392	27538	27751	28807	-4%

1 Based on Monthly Oil Questionnaire data submitted by OECD countries in tonnes and converted to barrels.
2 Excludes intra-regional trade.
3 Includes additives.

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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. 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 © 2019 Argus Media Limited - all rights reserved).

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