International Energy Agency
Secure Sustainable Together

12 October 2018

HIGHLIGHTS

- **The forecast for demand growth in 2018 and 2019 has been reduced for both years by 110 kb/d to 1.3 mb/d and 1.4 mb/d, respectively.** This is due to a weaker economic outlook, trade concerns, higher oil prices and a revision to Chinese data.

- **OECD demand, supported by a strong 1Q18 and robust US growth, will expand by 300 kb/d in 2018, slowing to 130 kb/d in 2019**. Non-OECD demand will grow by 1 mb/d in 2018, led by China and India, which together account for 60% of the global increase.

- **Global oil supply is growing fast; in September, world oil production, at around 100 mb/d, was 2.6 mb/d higher than a year ago.** Non-OPEC output is forecast to expand by 2.2 mb/d and 1.8 mb/d in 2018 and 2019, respectively, led by the United States.

- **OPEC crude oil production rose by 100 kb/d in September to a one-year high of 32.78 mb/d.** Since May, OPEC output has increased by 735 kb/d, led by the main Gulf producers and supported by Nigeria and Libya, offsetting falls in Iran and Venezuela.

- **Refiners are facing increased competition as capacity additions surge between now and end-2019.** After increasing by 0.9 mb/d this year, refinery runs will grow by 1.3 mb/d in 2019, while refined product demand growth is only 1 mb/d.

- **OECD commercial stocks rose 15.7 mb in August to 2 854 mb, their highest level since February**, on strong refinery output and LPG restocking. OECD inventories are likely to have risen by 43 mb (470 kb/d) in 3Q18, the largest quarterly increase in stocks since 1Q16.

- **ICE Brent prices reached four-year highs above $85/bbl in early October.** The Brent-WTI differential has widened to $9/bbl as US price increases were weaker. Product prices failed to match the gains made by crude.

International Energy Agency
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Found across a vast range of modern products, petrochemicals are part of the fabric of our societies. Clothing, car parts, electronic gadgets, detergents and countless other everyday items are made from petrochemicals. Fertilisers are used to boost agricultural yields, and packaging – much of which is used for food and beverages – accounts for a third of plastic demand.

We live in a world dependent on chemicals, and making these products accounts for a rising share of global consumption of oil, natural gas and other fuels. Chemical feedstock accounts for 12% of global oil demand, a share that is expected to increase in the future driven by increasing demand for plastics, fertilisers and other petrochemical products.

Despite its size, the sector continues to take a back seat in the global energy debate. As part of the IEA on-going examination of energy "blind spots" – major areas of energy demand which fail to attract the level of attention from policy makers that they deserve – *The Future of Petrochemicals* explores the role of the sector in today's global energy system and how its significance for global energy security and the environment is set to increase on the basis of established trends.

The analysis discusses how petrochemical products are engrained in today's society, and what role they could play in the sustainable transformation of the energy system. It also draws a path to an alternative scenario consistent with the UN Sustainable Development Goals, exploring the technologies and strategies required, and assessing the impact on energy demand.

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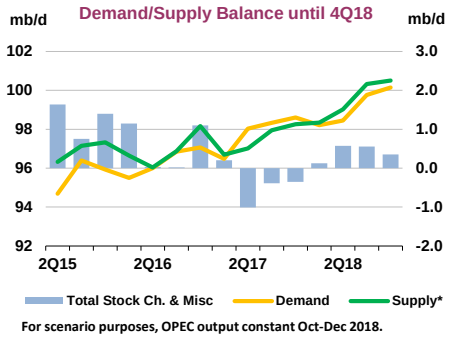
Twin Peaks

Both global oil demand and supply are now close to new, historically significant peaks at 100 mb/d, and neither show signs of ceasing to grow any time soon. Fifteen years ago, forecasts of peak supply were all the rage, with production from non-OPEC countries supposed to have started declining by now. In fact, production has surged, led by the US shale revolution, and supported by big increases in Brazil, Canada and elsewhere. In future, a lot of potential supply could come to the market from places like Iran, Iraq, Libya, Nigeria and Venezuela, if their various challenges can be overcome. There is no peak in sight for demand either. The drivers of demand remain very powerful, with petrochemicals being a major factor. In a new IEA study *"The Future of Petrochemicals"*, the Agency points out that rising living standards, particularly in developing countries, are already underpinning strong demand growth for plastics and this will continue for many years to come.

As the oil market reaches the landmark 100 mb/d level, prices are rising steadily. Brent crude oil is now established above $80/bbl, with infrastructure constraints causing North American prices to lag somewhat. Nonetheless, our position is that expensive energy is back, with oil, gas and coal trading at multi-year highs, and it poses a threat to economic growth. For many developing countries, higher international prices coincide with currencies depreciating against the US dollar, so the threat of economic damage is more acute. The global economy is also at risk from trade disputes. In this *Report*, our revised demand outlook reflects these concerns: growth in both 2018 and 2019 will be 110 kb/d lower than our earlier forecast. As explained in the demand section of this *Report*, there is also an impact from methodological changes to Chinese estimates.



Today's elevated oil prices partly reflect very high crude runs during recent months and also supply fears as sanctions against Iran draw near. In fact, since May, when the US announced its withdrawal from the JCPOA and its decision to impose sanctions, the Vienna Agreement parties, plus Libya and Nigeria but excluding Iran, Mexico and Venezuela, have increased total oil production by a combined 1.6 mb/d. At the same time, total US supply has increased by 390 kb/d. Even China has seen the first year-on-year production growth in nearly three years in response to higher prices. Official statements from Saudi Arabia suggest that October exports are back to the high levels seen in June and that more oil is available for those who wish to buy it. Meanwhile, output in Iran, Mexico, and Venezuela has fallen by 575 kb/d. New data for OECD stocks show that in August they increased by a more-than-normal 16 mb and have been relatively stable for several months after falling significantly following the implementation of the original Vienna Agreement.

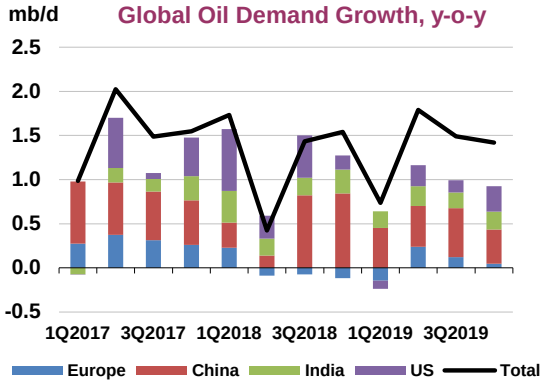
The increase in *net production* from key suppliers since May of approximately 1.4 mb/d, led by Saudi Arabia, and the fact that oil stocks built by 0.5 mb/d in 2Q18 and look likely to have done the same in 3Q18, lends weight to the argument that the oil market is *adequately supplied for now.* The IEA welcomes this boost to supply; however, with Iran's exports likely to fall by significantly more than the 800 kb/d seen so far, and the ever-present threat of supply disruptions in Libya and a collapse in Venezuela, we cannot be complacent and the market is clearly signalling its concerns that more supply might be needed.

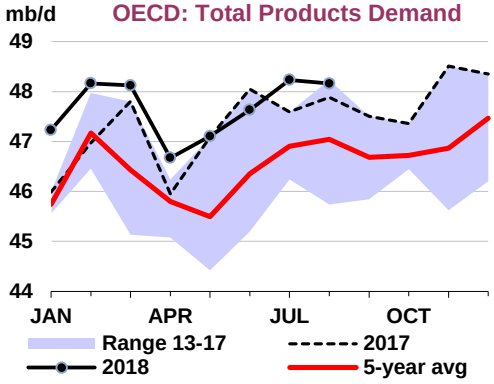
It is an extraordinary achievement for the global oil industry to meet the needs of a 100 mb/d market, but today, in 4Q18, we have reached new twin peaks for demand and supply by straining parts of the system to the limit. Recent production increases come at the expense of spare capacity, which is already down to only 2% of global demand, with further reductions likely to come. This strain could be with us for some time and it will likely be accompanied by higher prices, however much we regret them and their potential negative impact on the global economy.

DEMAND

Summary

In this *Report*, a combination of higher prices, a less optimistic outlook for the global economy and a downward revision to Chinese data has reduced our expectation for oil demand growth. US demand remains strong, supported by robust diesel deliveries but other regions are starting to show signs of faltering. European oil demand rose above last year levels in July but fell back again in August, heavily influenced by weak German demand. Non-OECD demand remained robust in July but started to reflect the impact of high oil prices in August. Non-OECD Asia oil demand, supported by China and India, continues to be the main contributor to global growth. Overall, world oil demand is now expected to grow by 1.3 mb/d in 2018 and 1.4 mb/d in 2019.





OECD Americas oil demand is projected to increase by 370 kb/d in 2018, supported by harsh weather conditions in 1Q18 and the start-up of petrochemical projects in the US. However, the strong year-on-year (y-o-y) increase in oil prices is slowing gasoline demand. More ethane crackers coming on stream should support OECD Americas growth at 145 kb/d in 2019. OECD Europe oil demand posted a decline of 90 kb/d y-o-y in 2Q18 and is projected to be 80 kb/d below last year's level in 3Q18. For the year as a whole demand will be down by a very small 15 kb/d in 2018 on very weak gasoil deliveries, but it will rebound by 70 kb/d in 2019. OECD Asia Oceania demand will post small declines in both 2018 and 2019. Overall, total OECD growth is projected at 300 kb/d in 2018 and 130 kb/d in 2019.

Global Oil Demand (2017-2019)

(million barrels per day)*

	1Q17	2Q17	3Q17	4Q17	2017	1Q18	2Q18	3Q18	4Q18	2018	1Q19	2Q19	3Q19	4Q19	2019
Africa	4.4	4.3	4.2	4.3	4.3	4.3	4.3	4.2	4.3	4.3	4.4	4.4	4.2	4.4	4.4
Americas	30.9	31.6	31.7	31.8	31.5	31.6	31.7	32.1	32.0	31.9	31.5	32.1	32.3	32.3	32.0
Asia/Pacific	34.1	34.0	33.4	34.6	34.0	34.9	34.5	34.3	35.8	34.9	35.7	35.3	35.1	36.5	35.6
Europe	14.5	15.0	15.5	15.2	15.0	14.8	14.9	15.4	15.1	15.0	14.7	15.2	15.5	15.1	15.1
FSU	4.3	4.5	4.7	4.6	4.5	4.5	4.6	4.9	4.6	4.7	4.5	4.7	5.0	4.8	4.7
Middle East	8.2	8.7	8.9	8.2	8.5	8.1	8.4	8.9	8.4	8.5	8.2	8.7	9.1	8.5	8.6
World	**96.5**	**98.0**	**98.3**	**98.6**	**97.9**	**98.2**	**98.5**	**99.8**	**100.2**	**99.2**	**98.9**	**100.2**	**101.3**	**101.6**	**100.5**
Annual Chg (%)	1.0	2.1	1.5	1.6	1.6	1.8	0.4	1.5	1.6	1.3	0.7	1.8	1.5	1.4	1.4
Annual Chg (mb/d)	1.0	2.0	1.5	1.5	1.5	1.7	0.4	1.4	1.5	1.3	0.7	1.8	1.5	1.4	1.4
Changes from last OMR (mb/d)	0.0	0.1	-0.1	-0.1	0.0	-0.1	-0.3	0.0	-0.1	-0.1	-0.3	-0.2	-0.1	-0.3	-0.2

* Including biofuels

Non-OECD oil consumption should increase by 1 mb/d in 2018 supported by growth in Asian demand. In 2019, growth is set to accelerate to 1.23 mb/d. Asia will continue to be the main source of growth (0.91 mb/d in 2018 and 0.87 mb/d in 2019).

Global Demand by Product

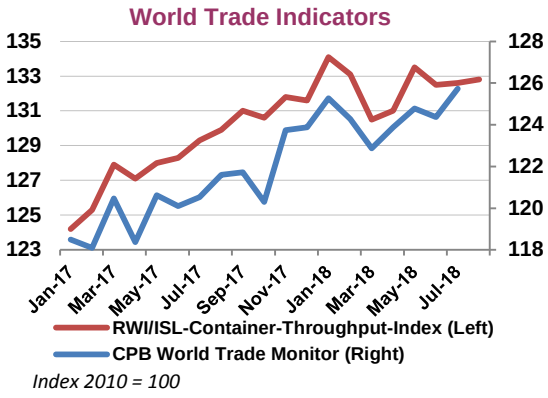
(thousand barrels per day)

	Demand			Annual Chg (kb/d)		Annual Chg (%)	
	4Q17	1Q18	2Q18	1Q18	2Q18	1Q18	2Q18
LPG & Ethane	12,116	12,859	11,954	709	284	5.8	2.4
Naphtha	6,591	6,441	6,094	-128	-104	-1.9	-1.7
Motor Gasoline	25,779	25,405	26,051	253	-171	1.0	-0.7
Jet Fuel & Kerosene	7,649	7,755	7,670	259	357	3.5	4.9
Gas/Diesel Oil	28,594	27,974	28,436	764	192	2.8	0.7
Residual Fuel Oil	6,951	6,961	6,936	-504	-178	-6.8	-2.5
Other Products	10,933	10,818	11,311	380	43	3.6	0.4
Total Products	**98,613**	**98,214**	**98,453**	**1,732**	**423**	**1.8**	**0.4**

Fundamentals

The economic assumptions used in our forecast have been downgraded following the publication of new outlooks by the OECD and the IMF. Our oil price assumptions have been revised up due to an increase in Brent futures prices. The baseline for historical demand data in 1H18 has been revised slightly down following a re-evaluation of Chinese demand estimates.

The outlook for global economic growth has been revised down, from 3.9% to 3.7% for both 2018 and 2019, following the recent publication of the OECD's interim outlook. The IMF's outlook, published in October, has similar numbers. In Europe, notable revisions were made for France and Germany. The outlook for countries such as Argentina, Brazil, Mexico, South Africa and Turkey were also downgraded. By contrast, Saudi Arabia and Russia have benefited from the upturn in oil prices. The OECD expects GDP growth in China to remain at 6.5% in 2019, as the impact of trade tensions have, so far, been modest. The IMF was slightly more pessimistic, taking its forecast for China's growth down to 6.2%. Both organisations noted that global trade growth has slowed and that several developing countries have been severely impacted by a decline in the value of their currency.



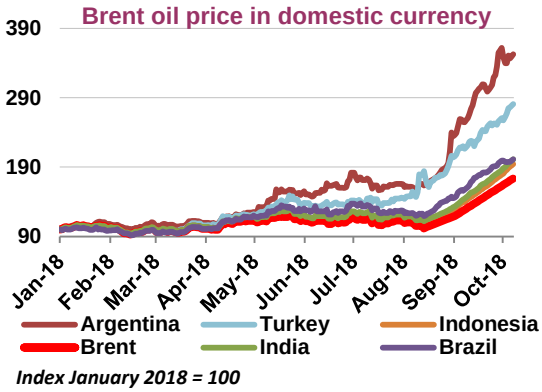
The OECD reckons that global trade volume growth eased to around 3% in 1H18 from 5% in 2017. Both policy announcements and actual restrictive trade measures have already caused a slowdown in targeted sectors. Indeed, both the RWI/ISL container index and the CPB World Trade Monitor (Netherlands Bureau for Economic Policy Analysis) show that, after a strong start to the year, the volume of world trade is stagnating.

The OECD outlook also reflected tighter financial conditions in emerging markets. Raises in US interest rates and increasing risk aversion contributed to significant currency depreciation in many emerging markets. A quicker than expected normalisation of monetary policies in Europe and the US and increasing trade tensions could exacerbate the situation. The combination of rising oil prices and deteriorating exchange rates is having a strong impact on emerging markets where, in many cases, the domestic cost of oil products has soared. Countries that hitherto resisted the re-introduction of subsidies or price controls are now intervening to relieve the pressure on consumers. In India, for example, excise taxes were reduced recently to help households cope with rising prices.

On oil prices, we updated our price assumption using the ICE Brent futures curve as of early October. This assumes that in 2018 the price will average $74.8/bbl, rising slightly to $82.5/bbl in 2019. This is

about $6.8/bbl above the prices used in our September *Report*, potentially cutting 135 kb/d from demand through the end of 2018 and 180 kb/d in 2019. Higher prices are now expected to exert a negative impact in 2019, potentially cutting around 225 kb/d of oil demand.

In this *Report*, historical Chinese oil demand data for 2018 have been revised down by 140 kb/d (see *Shandong special case*).



OECD

We have complete demand data for OECD countries for July. Preliminary estimates are available for Mexico, Japan, Korea and some European countries for August. US weekly data are available through the end of September.

OECD Demand based on Adjusted Preliminary Submissions - August 2018

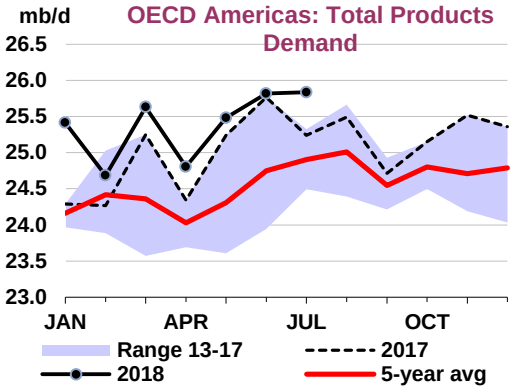
(million barrels per day)

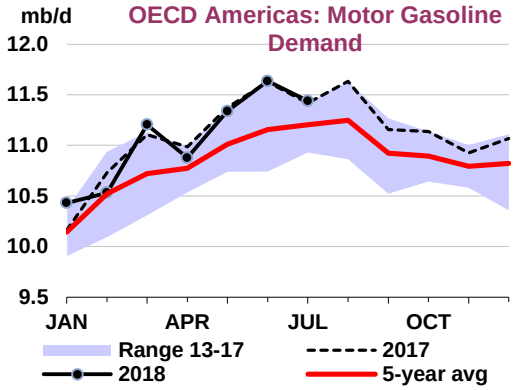
	Gasoline		Jet/Kerosene		Diesel		Other Gasoil		RFO		Other		Total Products	
	mb/d	% pa	mb/d	% pa	mb/d	% pa	mb/d	% pa	mb/d	% pa	mb/d	% pa	mb/d	% pa
OECD Americas*	**11.40**	**-2.0**	**2.23**	**6.2**	**4.90**	**2.5**	**0.46**	**-7.7**	**0.67**	**2.9**	**6.31**	**8.10**	**25.96**	**1.8**
US50	9.61	-1.5	1.89	7.1	4.07	4.1	0.10	4.1	0.32	-7.8	4.88	11.23	20.86	3.0
Canada	0.86	-6.3	0.19	3.3	0.27	-6.2	0.28	-13.2	0.06	26.4	0.81	-1.66	2.47	-4.4
Mexico	0.78	-3.9	0.09	0.2	0.34	-4.3	0.05	1.6	0.19	22.4	0.49	-1.28	1.94	-0.9
OECD Europe	**2.01**	**-1.2**	**1.68**	**3.2**	**5.04**	**-2.2**	**1.29**	**-0.9**	**0.87**	**-0.8**	**3.54**	**-0.52**	**14.42**	**-0.9**
Germany	0.43	-2.2	0.25	0.9	0.75	-5.0	0.29	-12.0	0.07	-2.6	0.50	-18.44	2.30	-8.0
United Kingdom	0.29	-0.5	0.33	6.3	0.52	1.0	0.16	2.4	0.03	7.5	0.28	-6.35	1.60	0.6
France	0.21	5.3	0.19	3.6	0.67	-5.0	0.22	-6.3	0.05	-3.1	0.33	-0.24	1.68	-2.0
Italy	0.17	-1.7	0.14	4.2	0.46	1.9	0.08	-0.4	0.07	-20.9	0.34	8.62	1.25	1.6
Spain	0.12	-1.3	0.17	1.4	0.47	-1.7	0.12	0.5	0.15	1.8	0.24	-7.06	1.28	-1.7
OECD Asia & Oceania	**1.66**	**-0.3**	**0.69**	**-1.7**	**1.41**	**3.2**	**0.46**	**1.4**	**0.60**	**11.2**	**2.97**	**-5.07**	**7.78**	**-0.8**
Japan	0.97	-0.6	0.31	-4.2	0.41	0.2	0.30	3.1	0.33	23.7	1.34	-5.16	3.67	-0.5
Korea	0.24	2.3	0.16	-1.0	0.41	7.9	0.08	-10.7	0.24	-2.3	1.36	-5.70	2.48	-2.5
Australia	0.32	-1.3	0.16	0.7	0.53	1.6	0.00	0.0	0.01	-11.7	0.18	-2.51	1.19	-0.1
OECD Total	**15.06**	**-1.7**	**4.60**	**3.8**	**11.34**	**0.4**	**2.20**	**-1.9**	**2.14**	**3.5**	**12.82**	**2.36**	**48.16**	**0.6**

* Including US territories

Americas

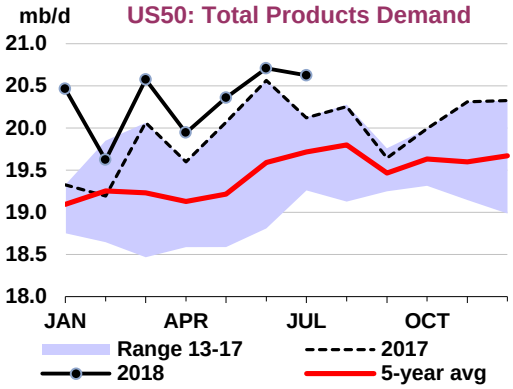
North American oil demand growth slowed to 250 kb/d y-o-y in 2Q18 after a very strong 1Q18 (650 kb/d). Growth is expected at 450 kb/d in 3Q18, of which LPG will account for 315 kb/d and gasoil 140 kb/d. Gasoline demand is expected to contract by 95 kb/d in 3Q18.

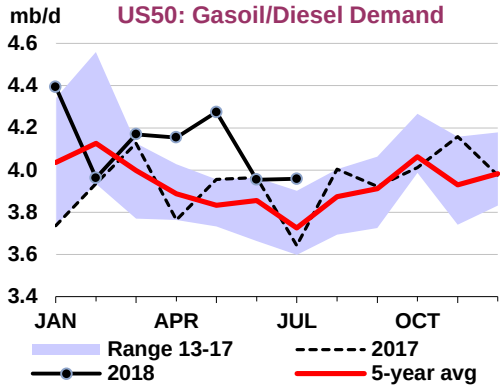




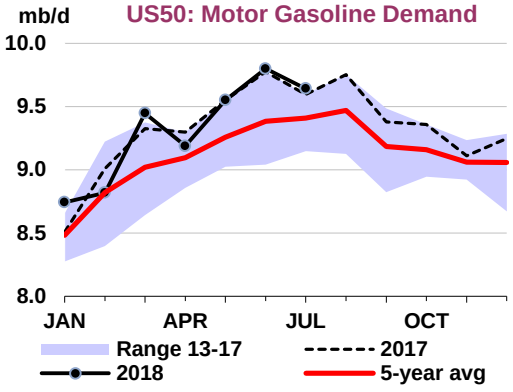
US oil demand increased by 505 kb/d y-o-y in July, rebounding strongly from a relatively modest 145 kb/d in June. LPG/ethane demand growth reached 150 kb/d y-o-y, and is expected to remain strong in the coming months, thanks to the start-up of new petrochemical projects and compared with weak year-ago data. Gasoil demand rose by 315 kb/d y-o-y in July, after a small contraction in June.

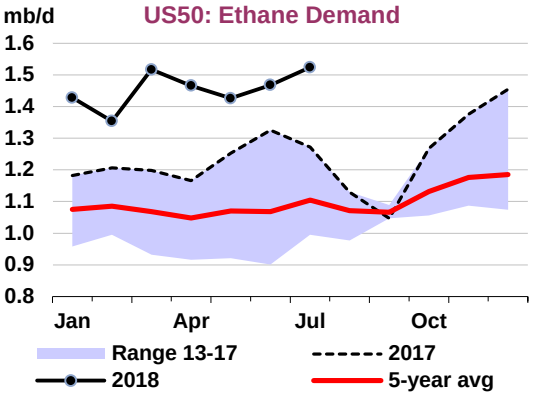
US diesel demand continues to be supported by rising imports of goods for onward distribution and very strong growth in industrial production. The CPB index shows an increase of 5.2% y-o-y in the volume of US imports in July. Growth in manufacturing production accelerated to 4% in July and 4.9% in August, further supporting diesel demand for the transportation of goods. The American Trucking Association tonnage index rose by 4.5% y-o-y in August and 8.6% y-o-y in July. Demand dropped by 19% month-on-month (m-o-m) in September but remained strong by historical standards.





Gasoline demand rose by 45 kb/d y-o-y in July. The US Federal Highway Administration reported a minimal growth of 0.3% y-o-y in traffic volume (vehicle miles travelled) in July. Preliminary weekly data point to a drop of 145 kb/d y-o-y in gasoline demand in August, and a further drop of 70 kb/d in September reflecting the impact of higher prices. Ethane demand growth remained strong following the start-up of several petrochemical facilities (detailed in previous *Reports*).





Jet fuel demand rose by 40 kb/d y-o-y in July, with the International Air Transport Association reporting an increase of 5.5% y-o-y in US domestic air traffic in July and 5.2 % y-o-y in August. Weekly data point to further strong growth in August of 125 kb/d and slightly less (roughly 105 kb/d) in September.

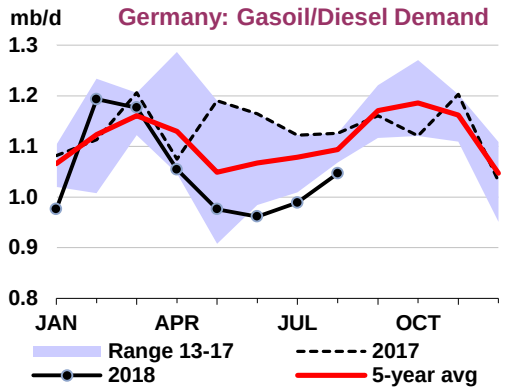
Canada's oil demand rose by 70 kb/d y-o-y in July, on strong jet and gasoil demand. Gasoline dropped by 35 kb/d y-o-y. There are some issues with data for Mexico for July and August which require clarification before being incorporated into our forecast.

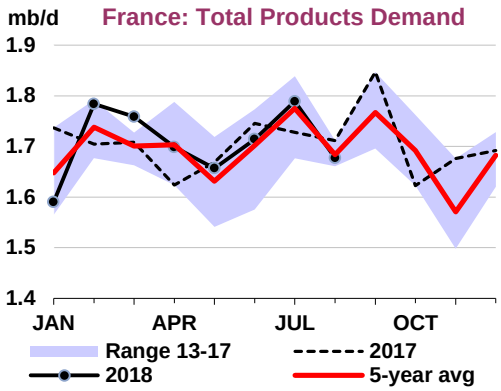
Total North American oil demand, after growing by 370 kb/d in 2018, should increase by 145 kb/d in 2019. Ethane crackers coming on stream will add 155 kb/d to demand in 2019.

Europe

European oil demand rose by 155 kb/d y-o-y in July, but in August preliminary data point to a decline of 125 kb/d. Gasoil demand remained subdued.

The disaffection towards diesel engine cars is spreading all over Europe. Their sales market share in the European Union fell from 45.2% in 1H17 to 36.5% in 1H18. Sales declined by 16% during the period to 3.12 million units, with a particularly big decline of 30% seen in the UK. After a fall of 245 kb/d y-o-y in June, gasoil deliveries rose by 70 kb/d in July but dropped by 125 kb/d in August, according to preliminary data. The drop mainly affected diesel deliveries (down by 115 kb/d).





German oil demand remained particularly weak, declining by 250 kb/d in July and 200 kb/d in August. In addition to gasoil, naphtha demand has slowed significantly y-o-y in the past few months. Concerns about pollution and falling resale values have penalised diesel car sales. Gasoil demand fell by 135 kb/d in July and 80 kb/d in August. Heating oil deliveries remained very weak.

The share of diesel cars in vehicle sales fell from 41.3% in 1H17 to 31.1 % in 1H18. In August, gasoline-powered cars accounted for 62.1% of total sales and diesel 32.6%. Disaffection with diesel pushed up German exports of second-hand cars by more than 20% in 2017 according to a recent study. On ten October, following the lead of Frankfurt, Stuttgart and Hamburg, Berlin decided to introduce exclusion zones for diesel cars (up to the Euro 5 emissions standard) by the end of March 2019. The federal government agreed to help households adapt to driving bans: car owners will be offered a bonus to trade their old diesel cars for more modern and less polluting vehicles.

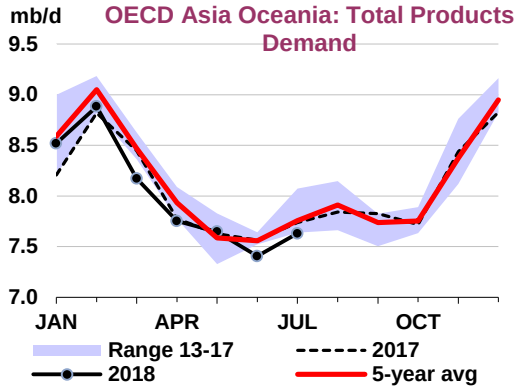
Oil demand in **France** rose by 60 kb/d in July. Preliminary data suggest that demand declined by 35 kb/d in August. In **Italy**, oil demand rose by 35 kb/d in July, and is believed to have increased by 20 kb/d in August, according to preliminary data.

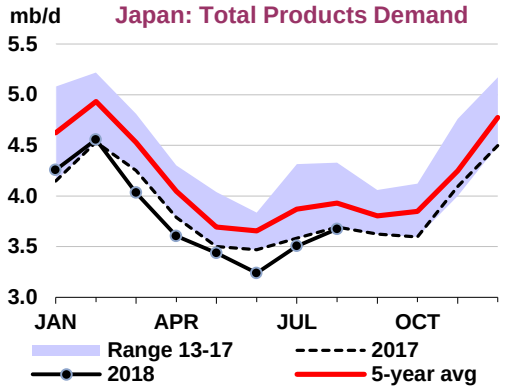
Overall, we expect European oil demand to drop by 15 kb/d in 2018. We then expect a rebound of 65 kb/d in 2019 with heating oil deliveries returning to normal.

Asia Oceania

OECD Asia Oceania demand declined by 110 kb/d y-o-y in July. Preliminary data point to a drop of 65 kb/d in August.

Japanese oil demand fell by 80 kb/d in July, on lower deliveries of almost all products. The decline is likely to have slowed in August, to 20 kb/d, according to preliminary data.





After being very low in June and July, Japanese demand returned to close to last year's levels in August. In September, typhoon Jebi disrupted operations at Kansai airport forcing passengers and commercial traffic to use other airports. The combination of natural disasters at home and trade tensions between China and the US is likely to have a negative impact on Japan's economy in 3Q18, possibly affecting oil demand. In any event, demand is projected to fall by 100 kb/d in both 2018 and 2019.

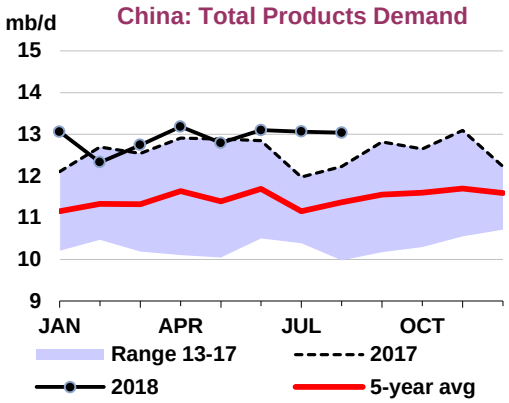
South Korean demand dropped by 55 kb/d in July and by 65 kb/d in August, on lower naphtha and gasoil deliveries. In **Australia**, oil demand rose by 20 kb/d y-o-y in July on strong diesel deliveries

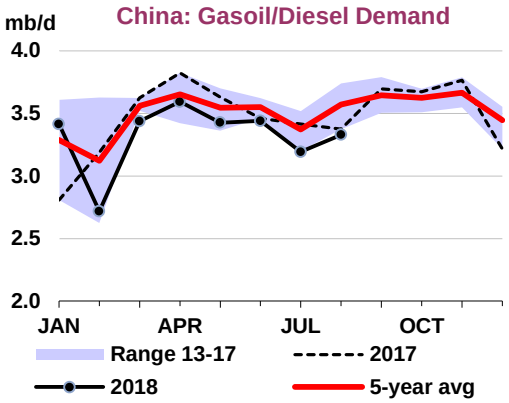
OECD Asia Oceania oil demand should contract by 60 kb/d in 2018 and by a further 80 kb/d in 2019.

Non-OECD

China

Chinese oil demand is estimated to have increased by 810 kb/d y-o-y in August. Since April we are missing inventory and detailed trade data normally used in the computation of apparent demand. This month we have revised our methodology for China to take into account the special circumstances in Shandong which has resulted in an artificially large 'other products' category in recent month.





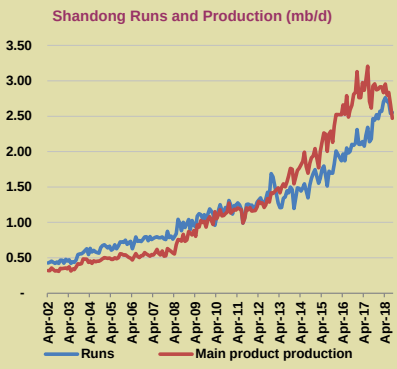
Shandong's special case

Chinese demand for the main oil products (fuel oil, gasoil, kerosene, gasoline, naphtha and LPG) is in practice, based on refinery production reported by China National Bureau of Statistics (NBS) and net import data reported by customs authorities, as well as stock changes when available. Total demand is computed as refinery runs, representing total production, plus net product imports. Demand for 'other products' is

Shandong's special case (continued)

then computed as the estimated total demand minus the sum of main products demand. This demand proxy is subsequently re-scaled on annual data from *World Energy Statistics 2018* (WES) using additive correction factors. The correction factor for the last year available in WES (currently 2016) is used for the subsequent periods. From a practical standpoint, it means that only monthly changes to the demand proxy impact our final demand estimates, not the absolute value. This adjustment methodology provides robust and consistent estimates for non-OECD demand.

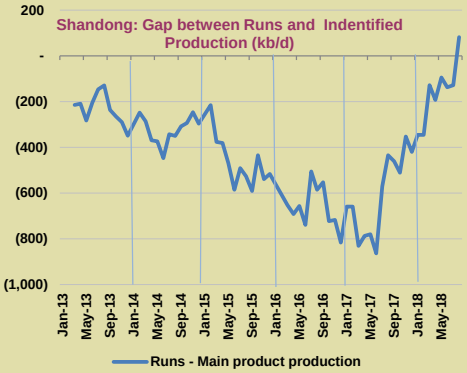
The methodology does, however, have limitations. In recent years, there has been a growing discrepancy in China between data for refinery runs and the production of the main products, resulting in a large increase in our estimate of 'other product' production and demand. We have identified possible reasons for this by looking at historical monthly provincial data, provided by NBS. For each province we computed the total production of main products reported by NBS (asphalt, petroleum coke, fuel oil, gasoil, kerosene, LPG and naphtha) and we compared it to refinery runs. For all provinces we have refinery runs (in tonnes) higher than refinery production, with one exception: Shandong.



From 2013 to mid-2017, Shandong production of the main oil products rose increasingly higher than crude runs. From mid-2017, the gap between oil product production and runs started to narrow and by August 2018 it had reversed. There are several possible explanations for why production exceeded runs. An obvious one is that so-called teapot, or independent, refineries in Shandong are using straight run fuel oil as a feedstock so production is higher than their crude runs. It is certainly part of the explanation but teapots have increasingly use crude oil as a feedstock since 2015/2016 as they gained access to crude quotas. Shandong has also become a major secondary processing centre, with not only fuel oil, but also imported LPG being processed into petrochemical feedstock or gasoline blendstock.

Another possibility is that some imports of mixed aromatics or light cycle oil (LCO) appear in provincial production but not in runs or oil product imports. The narrowing and the reversal of the gap from mid-2017 can also be due to several reasons. Some teapots have reportedly declared their use of crude oil as fuel oil, sometimes using fake invoices, to obtain the reimbursement of consumption tax.

A coming tax reform announced for (and implemented in) March 2018, increasing control over the activities of independent refiners, might have reduced and stopped this practice. Finally, some refiners may have moved into petrochemical manufacturing and no longer report intermediate production of naphtha or LPG. The bottom line is that, in the case of Shandong, refinery runs can no longer be used as an indicator for product production. As an alternative, part of the difference between runs and production and an estimate of Shandong 'other product' output can be included in the calculation of Chinese apparent demand.



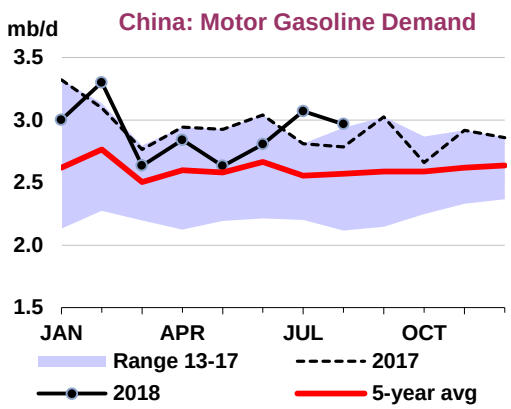
In order to correct for distortions introduced by Shandong's peculiar situation we added half of the correction factor to our monthly demand numbers from 2013 onwards. We did not apply the full factor to allow for possible double counting of LPG production, fuel use and imports of components not reported or not included in production data. The resulting correction to our demand proxy is similar on average for 2016 and 2017, adding roughly 285 kb/d to monthly numbers. Because of the rescaling with WES data for 2016, there are however no revisions to 2016 and 2017 final numbers. By August 2018, the correction to NBS numbers narrows to almost zero and, as a result, our estimates of other product demand for the first part of 2018 (Jan-Aug) are revised down by roughly 140 kb/d.

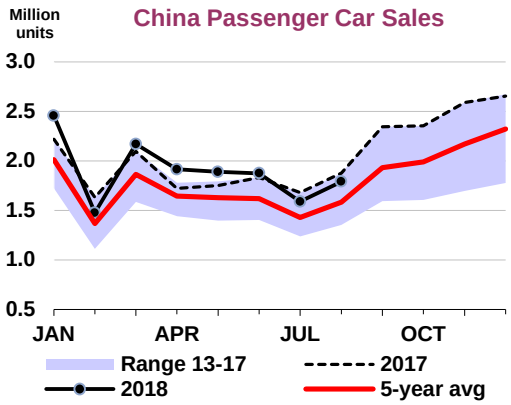
This updated methodology has resulted in China's other product demand remaining unchanged for 2016 and 2017 but revised down by 145 kb/d for 2018 and 125 kb/d for 2019. The complete picture for activity in Shandong in 2016-2018 is still unclear and our research continues.

Current indicators of Chinese economic activity are weakening. China's Caixin Manufacturing PMI fell to a 16 month low of 50 in September: the output component pointed to slower growth, new orders remained unchanged and exports fell the most since early 2016. Factory activity in Guangdong contracted in August for the first time since March 2016. China's official manufacturing PMI slipped to 50.8 in September from 51.3 in August. Its new export sub-index dropped to 48. Policy makers are increasing infrastructure construction to boost economic activity by accelerating approvals for road and rail projects, but it takes time for infrastructure projects to feed through into economic activity.

Apparent demand for gasoline rose by 180 kb/d y-o-y in August and diesel demand dropped by 45 kb/d. Gasoline demand in 2Q18 is believed to have been 210 kb/d below last year's level and 135 kb/d above it in 3Q18. Higher gasoline prices and the slow deterioration in the economic environment are starting to have an impact on demand. Car sales actually declined y-o-y in July and August. Total vehicle sales declined to 1.59 million in July, a 15.2% m-o-m decline and a 5.3% y-o-y decline. Vehicle sales reached 2.103 million units in August, down 3.8% y-o-y. Passenger car sales, in particular, dropped by 4.5%.

Diesel demand in 2Q18 is estimated to be down by 150 kb/d y-o-y and is projected to be 95 kb/d lower in 3Q18. Kerosene rose by 100 kb/d y-o-y in 2Q18 and 125 kb/d in 3Q18, supported by a strong aviation sector. Domestic air traffic rose by 12.6% y-o-y in July and 14.9% in August, still relatively unaffected by a weaker economic outlook and supported by a significant increase in airport connections.





We expect total oil demand growth to be 525 kb/d in 2018, followed by a slightly slower rate in 2019 of 465 kb/d.

China: Demand by Product

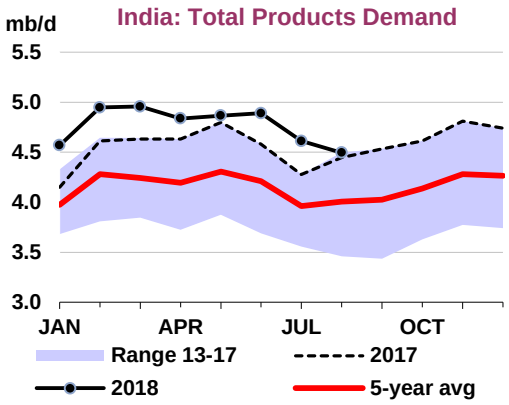
(thousand barrels per day)

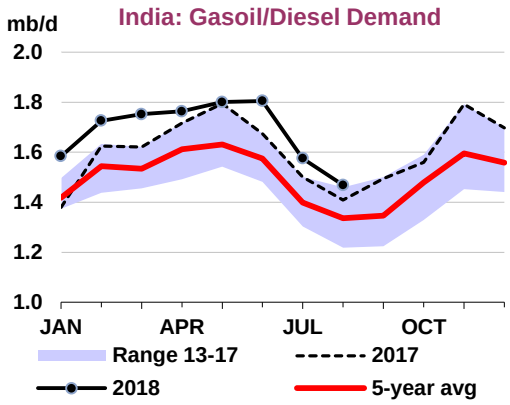
	Demand			Annual Chg (kb/d)		Annual Chg (%)	
	2017	2018	2019	2018	2019	2018	2019
LPG & Ethane	1,523	1,640	1,736	117	96	7.7	5.9
Naphtha	1,171	1,214	1,280	43	66	3.6	5.5
Motor Gasoline	2,927	2,949	3,052	22	103	0.8	3.5
Jet Fuel & Kerosene	710	796	837	87	41	12.2	5.2
Gas/Diesel Oil	3,473	3,440	3,527	-33	87	-1.0	2.5
Residual Fuel Oil	437	428	434	-9	6	-2.0	1.5
Other Products	2,336	2,634	2,699	298	65	12.8	2.5
Total Products	**12,576**	**13,101**	**13,566**	**525**	**465**	**4.2**	**3.6**

India

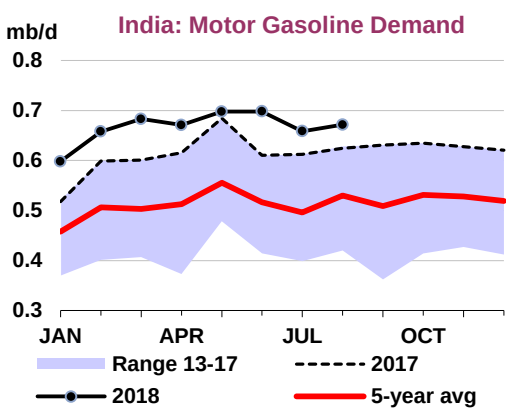
Indian oil demand rose by only 50 kb/d y-o-y in August following growth of 330 kb/d in July. Gasoil and gasoline growth was sluggish at 60 kb/d y-o-y and 45 kb/d respectively. Due to high international oil

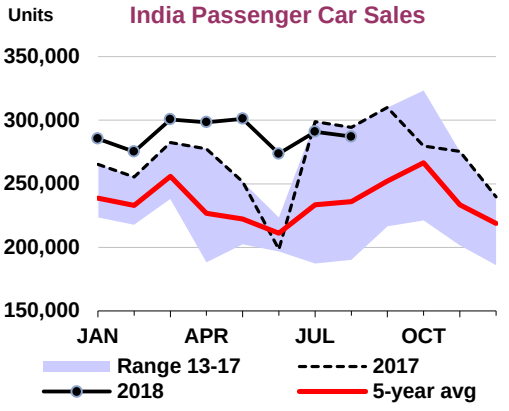
prices and the falling value of the rupee, domestic prices have increased steadily in recent months. This prompted the government to cut gasoline and diesel prices by 2.5 rupees per litre earlier this month.
For 2Q18 as a whole, growth is estimated to be 190 kb/d rising to 200 kb/d in 3Q18. LPG demand grew by 20 kb/d in August, as government policies continue to support the introduction of the fuel to replace kerosene in the residential sector. On the other hand, jet fuel grades continue to be boosted by the booming aviation sector: demand grew by 20 kb/d y-o-y in August. India continues to show the highest growth in air transport during the summer: in July, revenue passenger kilometres rose by 21.5% versus last year, accelerating to 22.6% in August.





For 2018 as a whole, Indian oil demand is expected to grow by 255 kb/d, before slowing to 200 kb/d in 2019.





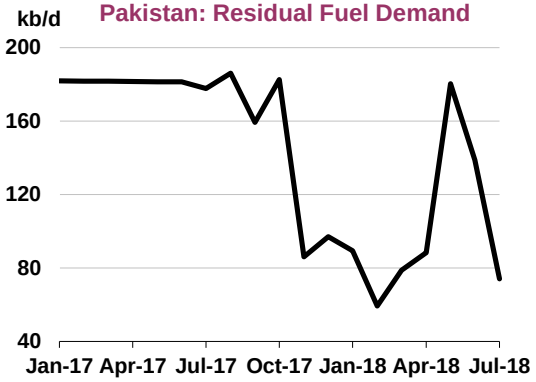
India: Demand by Product

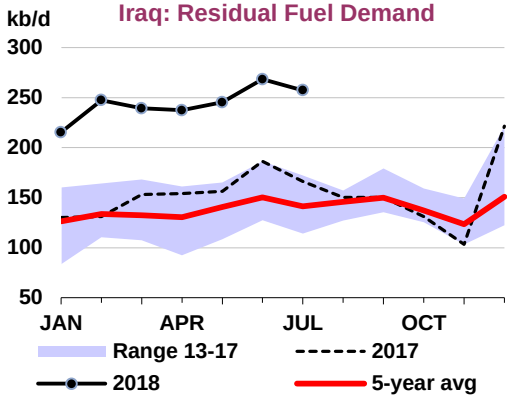
(thousand barrels per day)

	Demand			Annual Chg (kb/d)		Annual Chg (%)	
	2017	2018	2019	2018	2019	2018	2019
LPG & Ethane	740	806	845	65	39	8.8	4.8
Naphtha	283	300	310	17	9	6.0	3.1
Motor Gasoline	615	663	692	48	29	7.7	4.4
Jet Fuel & Kerosene	242	249	264	7	15	3.0	6.1
Gas/Diesel Oil	1,605	1,697	1,746	93	48	5.8	2.8
Residual Fuel Oil	145	145	150	0	5	0.3	3.2
Other Products	938	964	1,016	25	52	2.7	5.4
Total Products	**4,568**	**4,824**	**5,021**	**256**	**198**	**5.6**	**4.1**

Other Non-OECD

Iraq's fuel oil demand rose by 90 kb/d y-o-y in July and the direct use of oil in power generation fell to 30 kb/d. Crude oil used in the power sector in June was reported to be nil. In June and July 2017, crude oil direct use was reported at 205 kb/d and 110 kb/d, respectively. It is largely being replaced by natural gas (imported from Iran) and fuel oil. Iraq has asked the US for an exemption to continue to import power and natural gas from Iran after 4 November.





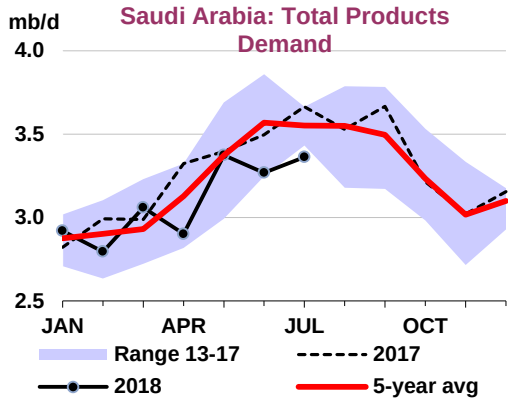
New data for **Pakistan** show a significant drop in oil demand compared to 2017. Fuel oil demand in particular ended 120 kb/d below last year in August. Gasoil demand dropped by 80 kb/d y-o-y. These falls partly reflect increasing availability of natural gas. The start-up of Pakistan's first LNG terminal saw its LNG imports increase by 55% to 4.3 Mt in 2017. The terminal operated by Engro Elengy Terminal Pakistan. A second terminal, operated by BW Integrity, with capacity of 4.5 Mt/y, commenced operations in November 2017. The two terminals were operating at full capacity for the first time in June 2018, allowing Pakistan to receive 11 cargoes (710 kt of LNG). The goal is to replace gasoil and fuel oil in the power sector, as well as to use gas as a road fuel. Financial difficulties and the depreciation of the Pakistani rupee could also have slowed oil demand in recent months.

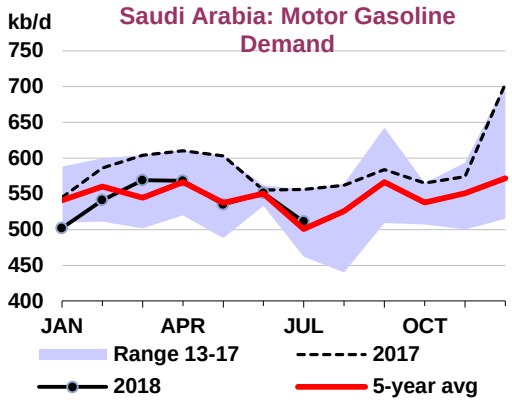
Non-OECD: Demand by Region

(thousand barrels per day)

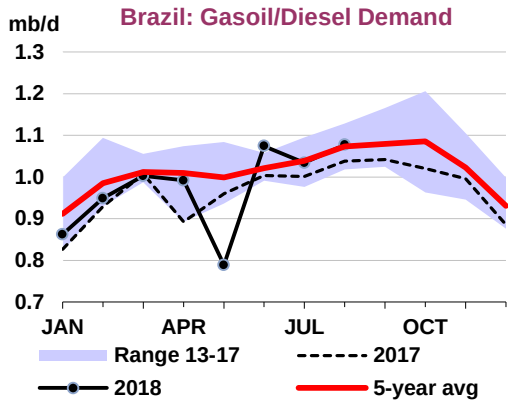
	Demand			Annual Chg (kb/d)		Annual Chg (%)	
	4Q17	1Q18	2Q18	1Q18	2Q18	1Q18	2Q18
Africa	4,265	4,343	4,298	-17	2	-0.4	0.1
Asia	26,256	26,410	26,866	792	548	3.1	2.1
FSU	4,598	4,452	4,616	156	104	3.6	2.3
Latin America	6,450	6,349	6,373	10	-87	0.2	-1.3
Middle East	8,224	8,103	8,423	-135	-245	-1.6	-2.8
Non-OECD Europe	757	733	744	18	-7	2.5	-1.0
Total Products	**50,549**	**50,390**	**51,320**	**823**	**315**	**1.7**	**0.6**

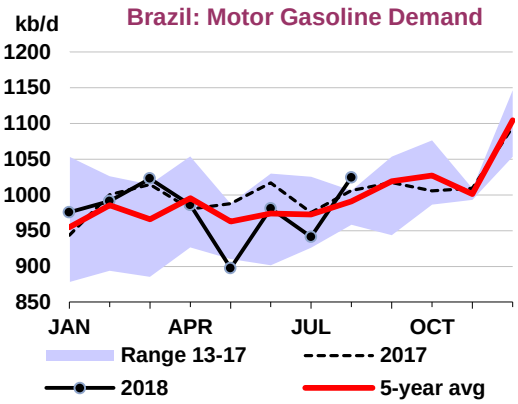
Saudi Arabian oil demand continues to be very weak, declining by 300 kb/d y-o-y in July, with sharp drops seen for gasoil, crude oil and fuel oil. Gasoil demand declined by 35 kb/d y-o-y in July reflecting a slowing economy and a reduction in the use of gasoil in power generation. Crude oil direct use was reported at 580 kb/d, a 75 kb/d y-o-y reduction. The government announced for 2018 a record fiscal stimulus to boost the economy after a period of austerity and this should boost economic activity and oil demand in 2H18 and in 2019. The Saudi budget is expected to further increase in 2019, reaching $295 bn, an increase of 7% versus 2018. Nevertheless, we expect oil demand to decline by 45 kb/d in 2018, after a drop of 25 kb/d in 2017. With the boost from government spending, we expect to see demand return to growth in 2019 at 100 kb/d.





Brazilian oil demand rose by 50 kb/d y-o-y in August after a drop of 20 kb/d y-o-y in July. Gasoil demand rose by 40 kb/d y-o-y, and gasoline demand rebounded by 20 kb/d. Overall, demand is projected to increase by 20 kb/d in 2018, accelerating very slightly to 30 kb/d in 2019.





Egyptian oil demand continued to weaken in July, declining by 150 kb/d y-o-y. Gasoline demand was down 10 kb/d, gasoil demand was down 70 kb/d, and fuel oil demand was 60 kb/d lower. The fall in fuel oil demand results from the increased use of natural gas in the power sector. Poor growth in oil deliveries partly reflects last summer's cuts to subsidies as part of an IMF-backed reform program. Since November 2016, Egypt has cut energy subsidies twice, increasing gasoline and diesel prices by 40% to 50%.

Russian oil demand increased by 160 kb/d y-o-y in August, led by fuel oil, which grew by 65 kb/d. For the year as a whole we expect demand to grow by 80 kb/d, decelerating to 60 kb/d in 2019.

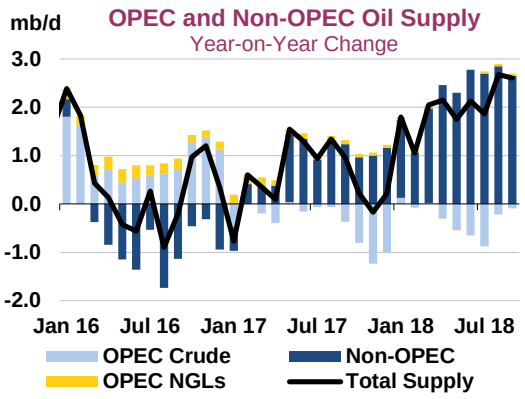
Non-OECD: Demand by Product

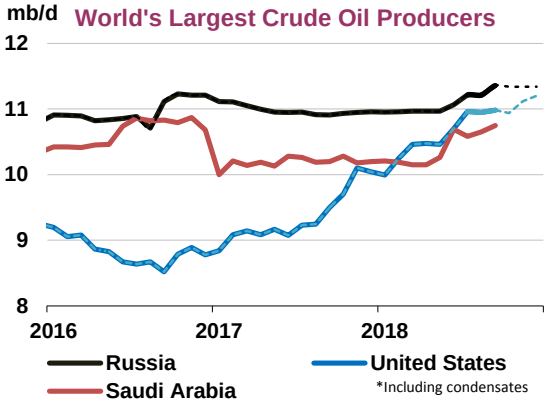
(thousand barrels per day)

	Demand			Annual Chg (kb/d)		Annual Chg (%)	
	4Q17	1Q18	2Q18	1Q18	2Q18	1Q18	2Q18
LPG & Ethane	6,721	6,809	6,838	262	148	4.0	2.2
Naphtha	2,921	2,962	2,880	68	68	2.4	2.4
Motor Gasoline	11,318	11,351	11,265	103	-153	0.9	-1.3
Jet Fuel & Kerosene	3,164	3,265	3,343	110	195	3.5	6.2
Gas/Diesel Oil	14,727	14,194	14,834	292	-31	2.1	-0.2
Residual Fuel Oil	4,774	4,784	4,886	-410	-156	-7.9	-3.1
Other Products	6,923	7,025	7,274	398	244	6.0	3.5
Total Products	**50,549**	**50,390**	**51,320**	**823**	**315**	**1.7**	**0.6**

SUPPLY

Global oil supply is growing at a relentless pace, even as Venezuelan production deteriorates and Iranian flows decline ahead of US sanctions. In September, world oil production was little changed from a month earlier at 100.3 mb/d, but more significantly, was up 2.6 mb/d on a year ago with non-OPEC countries accounting for almost the entire increase. Indeed, the recent breakneck pace of supply growth has led us to boost our non-OPEC supply growth estimate for this year to 2.2 mb/d. Next year's growth is unchanged at 1.8 mb/d. In OPEC, higher output from Saudi Arabia and other key Middle East producers has so far offset decreases from Venezuela and Iran.





In fact, since May, the month before OPEC and non-OPEC countries agreed to ease supply curbs, the 24 Vienna Agreement producers have raised output by a net 640 kb/d. Excluding Venezuela and Iran, the increase is 1.2 mb/d. Of this, Saudi Arabia has contributed almost 500 kb/d and record-breaking Russian producers have added nearly 400 kb/d. Supplies are also reaching record levels in the US and Canada despite infrastructure constraints and heavily discounted local crude prices.

OPEC / Non-OPEC Output Compliance[1]

(million barrels per day)

	Aug 2018 Supply	Sep 2018 Supply	Supply Baseline[2]	Agreed Cut	September Actual Cut	August Compliance	September Compliance	Average Compliance	Sustainable Production Capacity[6]	Spare Capacity vs Sep Supply[8]
Algeria	1.06	1.07	1.09	-0.05	-0.02	58%	38%	94%	1.08	0.01
Angola	1.47	1.50	1.75	-0.08	-0.25	360%	322%	214%	1.58	0.08
Ecuador	0.53	0.53	0.55	-0.03	-0.02	69%	69%	77%	0.54	0.01
Equatorial Guinea	0.11	0.12	0.14	-0.01	-0.02	250%	167%	126%	0.13	0.01
Gabon	0.20	0.19	0.20	-0.01	-0.01	22%	133%	46%	0.21	0.02
Iran[3]	3.63	3.45	3.71	0.09	-0.26	NA	NA	NA	3.85	0.40
Iraq	4.65	4.65	4.56	-0.21	0.09	-42%	-42%	33%	4.80	0.15
Kuwait	2.81	2.79	2.84	-0.13	-0.05	21%	37%	90%	2.93	0.14
Qatar	0.61	0.59	0.65	-0.03	-0.06	127%	193%	135%	0.63	0.04
Saudi Arabia	10.42	10.52	10.54	-0.49	-0.02	26%	5%	102%	12.04	1.52
UAE	2.98	3.05	3.01	-0.14	0.04	24%	-27%	66%	3.20	0.15
Venezuela[7]	1.25	1.23	2.07	-0.10	-0.84	860%	881%	368%	1.23	0.00
Total OPEC 12	**29.72**	**29.69**	**31.11**	**-1.18**	**-1.42**	**118%**	**121%**	**113%**		
Libya[4]	0.98	1.06							1.02	-0.04
Nigeria[4]	1.66	1.71							1.74	0.03
Congo[4]	0.32	0.32							0.33	0.01
Total OPEC	**32.68**	**32.78**							**35.31**	**2.13**
Azerbaijan	0.78	0.80	0.815	-0.04	-0.02	113%	50%	77%		
Kazakhstan	1.77	1.84	1.805	-0.02	0.03	196%	-162%	-332%		
Mexico	2.06	2.04	2.400	-0.10	-0.36	342%	358%	218%		
Oman	0.98	0.98	1.019	-0.05	-0.04	81%	81%	92%		
Russia	11.59	11.74	11.597	-0.30	0.14	2%	-47%	66%		
Others[5]	1.28	1.29	1.253	-0.05	0.03	-69%	-75%	35%		
Total Non-OPEC	**18.46**	**18.69**	**18.888**	**-0.55**	**-0.20**	**79%**	**37%**	**79%**		

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

2 OPEC based on Oct 2016 OPEC secondary source figures, except Angola which is based on Sep 2016. Non-OPEC based on IEA Oct total supply estimates. Kazakhstan Nov estimate.

3 Iran was given a slight increase. 4 Libya, Nigeria, Congo are exempt from cuts. 5 Bahrain, Brunei, Malaysia, Sudan and South Sudan.

6 Capacity levels can be reached within 90 days and sustained for an extended period. 7 If Venezuelan compliance were 100%, OPEC overall compliance would be 57% in September.

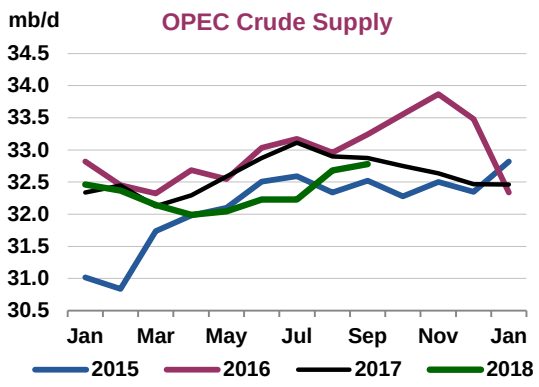
8 Spare capacity excludes Iranian crude supply that is offline due to sanctions.

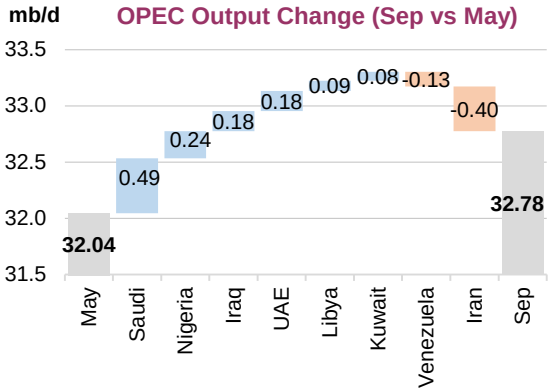
In September, although non-OPEC supply was significantly above year-ago levels, it actually declined by 140 kb/d from August, as seasonal drops in Canada and Norway outweighed higher Russian flows. Higher supplies from OPEC offset this to keep global oil supplies steady at 100 mb/d. OPEC crude oil production rose to a one-year high of 32.78 mb/d with Saudi Arabia, African producers and the UAE more than making up for a further decline in Iran.

Looking ahead, more supply might be forthcoming. Saudi Arabia has stated it already raised output to 10.7 mb/d in October, although at the cost of reducing spare capacity to 1.3 mb/d. Russia has also signaled it could increase production further if the market needs more oil. Their anticipated response, along with continued growth from the US, might be enough to meet demand in the fourth quarter. However, spare capacity would fall to extremely low levels as a percentage of global demand, leaving the oil market vulnerable to major disruptions elsewhere.

OPEC crude oil supply

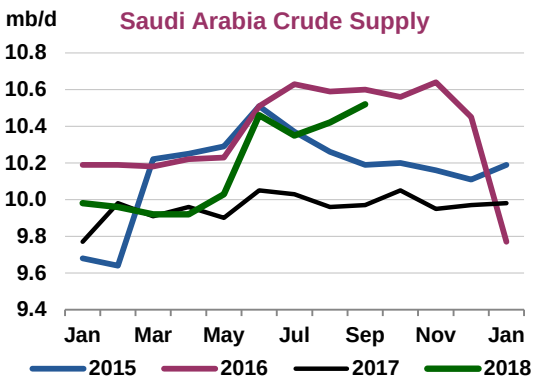
OPEC crude output rose by 100 kb/d in September to 32.78 mb/d, a one-year high, as Saudi Arabia, Libya, Nigeria and the UAE more than made up for further losses from Venezuela and Iran. Since May, production from OPEC has risen by 735 kb/d, with the main Gulf producers leading the way, supported by Nigeria and Libya.





Higher production is, however, eroding spare production capacity, which in September was 2.13 mb/d, excluding Iran. Saudi Arabia, which holds the lion's share of the production buffer, has signaled that it is pumping around 200 kb/d more in October. If final data support this, Saudi spare capacity would be 1.3 mb/d. As a result, overall OPEC spare capacity could fall to less than 2% of global demand. For the record, slightly lower output from OPEC members of the Vienna Agreement saw compliance in September edge up to 121%.

Saudi Arabia turned in the biggest month-on-month (m-o-m) increase, with supply rising 100 kb/d in September to 10.52 mb/d. More oil is expected in October, with Saudi Energy Minister Khalid al-Falih suggesting rates of around 10.7 mb/d, a record level, based on IEA estimates. Crude exports, according to al-Falih, will surge above 7.7 mb/d due to strong demand from customers in Asia. Saudi Aramco raised its November formula prices to Asia by $0.60-$0.70/bbl.



Saudi crude shipments appear to have held steady m-o-m at around 7.2 mb/d in September, according to *Kpler* tanker tracking data. Saudi Arabia is also building its stockpiles of crude outside the Kingdom to ensure swift delivery to customers around the world.

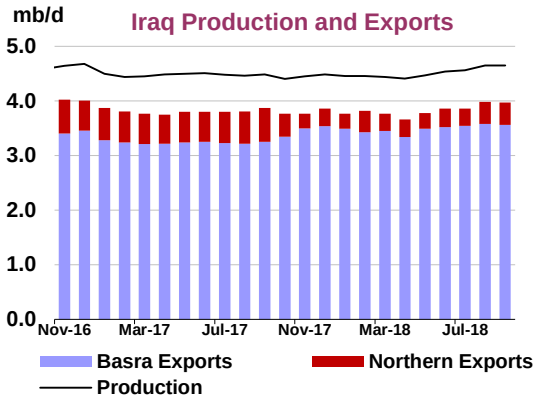
Producing at a rate of 10.7 mb/d would leave a Saudi supply buffer of 1.3 mb/d. Minister al-Falih was quoted as saying: "1.3 (mb/d of spare capacity) will be waiting for the demand to materialise". Capacity for both Saudi Arabia and Kuwait could get a boost should the shared oil fields of the Neutral Zone that have been shut-in since 2015 restart production. Talks are taking place to resolve the issue, but any resumption would be gradual and it could take months for the fields to hit peak capacity of 500 kb/d.

Meanwhile, the latest data from the Joint Organisations Data Initiative (JODI) show that July exports of Saudi crude eased 130 kb/d m-o-m to 7.1 mb/d, while product shipments rose 85 kb/d to nearly 2.1 mb/d. Total oil sales were broadly steady at 9.2 mb/d. At home, 580 kb/d of crude was used in power plants, up 110 kb/d from June, but 80 kb/d below the July 2017 level. Last year, the average amount of crude burned from May to September was 650 kb/d.

Elsewhere in the Gulf, production climbed 70 kb/d in the **UAE** to reach 3.05 mb/d – the highest level since the end of 2016. Output slipped in **Kuwait** and **Qatar** to 2.79 mb/d and 590 kb/d, respectively. In the UAE, capacity building is on track as the offshore Umm Lulu and Satah al-Razboot (SARB) fields ramp up. The Abu Dhabi National Oil Co reportedly plans to start exporting up to two cargoes a month of the Umm Lulu blend, which has an API gravity of around 39 degrees. The fields are currently producing roughly 50 kb/d and are expected to crank up to 130 kb/d by the end of this year and pump more than 200 kb/d by 2023.

In Qatar, plans are in place to boost LNG production capacity. Qatar Petroleum (QP), the world's largest LNG supplier, is adding a fourth train to raise North Field capacity by over 40% to 110 million tonnes a year. The new capacity, which will also boost supply of NGLs, is expected online by early 2024. Qatar in April 2017 lifted a self-imposed ban on development of the North Field, the world's biggest gas field that it shares with Iran - where it is known as South Pars.

Production from **Iraq**, including the Kurdistan Regional Government (KRG), held steady at 4.65 mb/d, just below a record achieved in December 2016. Capacity building continues, although the effort around the oil hub of Basra may be held back somewhat by export limitations. The southern fields of Rumaila, Halfaya, Zubair and West Qurna-1 are cranking up and supporting exports that are close to the highest ever. Shipments of southern Basra crude were 3.56 mb/d in September, slightly down on August. Export capacity in the Gulf, which handles the bulk of Iraqi crude, is currently around 3.7 mb/d.

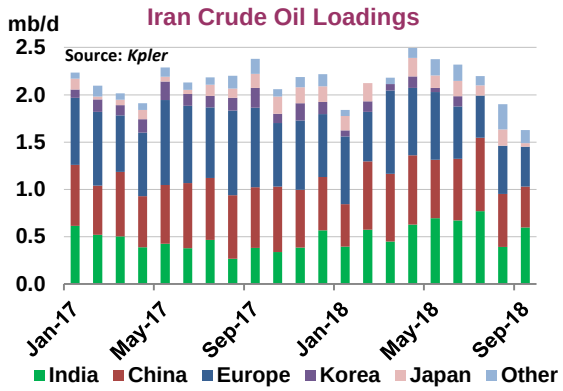


Baghdad is also raising output in the north, with Qayara, operated by Sonangol, back online and pumping around 30 kb/d. Target output at the field, until last year shut in during the war with Islamic State, is set at 60 kb/d by end-2018. Production is also increasing in the northern Kurdistan region. Higher flows from the Peshkabir oil field and the Khurmala dome of the Kirkuk oil field helped nudge up exports to 410 kb/d in September. Iraq has the potential to provide a further supply increase from the north if a long-standing political feud between Baghdad and the KRG over oil exports is resolved. The recent election of Barham Salih and Adel Abdul Mahdi as president and prime minister, respectively, could improve the prospects for a resolution. This could free up some 200 kb/d of northern oil production that is currently shut in.

Supply from **Iran** during September dropped to a two-and-a-half year low as customers continued to cut back in the run-up to US sanctions on 4 November. Production decreased to 3.45 mb/d, down 180 kb/d m-o-m. Sales of crude oil in September fell to 1.63 mb/d, down 800 kb/d from recent 2Q18 peaks. The

decline may deepen significantly ahead of US sanctions - and subsequently as final cargoes are delivered. During the last round of sanctions, Iranian crude exports were cut by 1.2 mb/d and this time, the reduction could be more substantial.

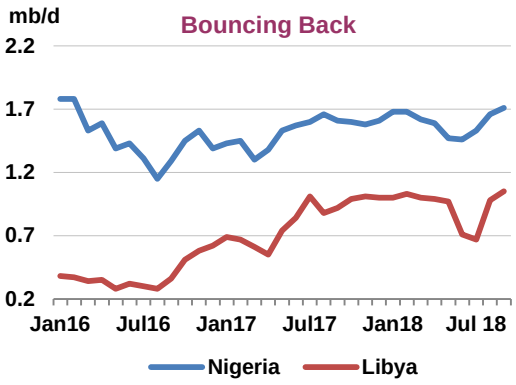
The US is, however, reportedly considering waivers on sanctions in a few cases. This followed reports that India, Iran's second biggest buyer after China, will buy roughly 300 kb/d of Iranian oil in November. For September, India raised purchases to 600 kb/d compared to 390 kb/d the previous month. China bought 430 kb/d, the lowest amount since the end of 2016. Sinopec's trading arm Unipec reportedly reduced crude loadings after it came under pressure to comply with US sanctions. Japan cut back to a mere 40 kb/d. South Korea and France have not bought a barrel since June, according to *Kpler* data.



Sales to Europe dropped to 420 kb/d and were 240 kb/d lower than in 2Q18. Shipments to Asia eased by 60 kb/d in September to around 1.1 mb/d. The final destination of 140 kb/d of exports was still unknown at the time of publishing. As for condensates, exports in September fell 90 kb/d to 100 kb/d. That compares to loadings of more than 250 kb/d in 2Q18.

It is worth noting that the m-o-m drop in crude exports of 270 kb/d was far steeper than production because Iran is storing volumes on land and in ships. At the end of September, the National Iranian Oil Co (NIOC) had stored roughly 7 million barrels of oil on four tankers moored off Kharg Island.

A rebound in Nigeria and Libya has seen production recover by 240 kb/d and 90 kb/d, respectively since May. **Libya** posted OPEC's second largest m-o-m increase during September, with output rising by 80 kb/d to 1.06 mb/d, the highest level in more than five years. However, supply remains vulnerable to disruptions due to ongoing unrest and security issues. On the upstream front, Eni has agreed to buy half of BP's 85% stake in Libyan oil and gas assets with the aim of restarting exploration efforts next year. The deal would see Eni take a 42.5% share and become operator of BP's assets, which include two onshore and one offshore block. The Libyan Investment Authority holds the remaining 15%.

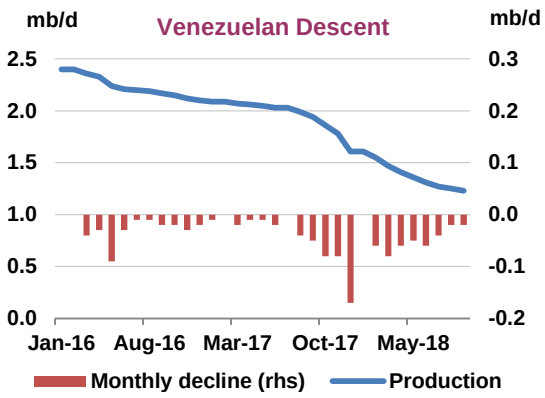


Nigerian supply rose 50 kb/d in September to 1.71 mb/d, the highest level in more than two years, as shipments of Qua Iboe accelerated. Loading schedules point to the possibility of higher production in the coming months. Output was 100 kb/d above the September 2017 level, but, as with Libya, flows are prone to disruption due to internal conflict.

Angola is also starting to see a recovery in production thanks to the July start-up of Total's ultra-deep-water Kaombo project and further increases are expected as the field ramps up. Output in September rose 30 kb/d to 1.5 mb/d but was still down 160 kb/d on a year ago, as declines at ageing fields have taken a toll on production.

Supply from other African producers was broadly steady. **Algerian** output crept up to 1.07 mb/d and to 120 kb/d in **Equatorial Guinea**. Production in **Congo** was unchanged versus August. Supply in **Gabon** edged down to 190 kb/d. However, more oil is coming online in Gabon after the offshore Tortue oil field started up. Output of up to 15 kb/d is expected in 2019.

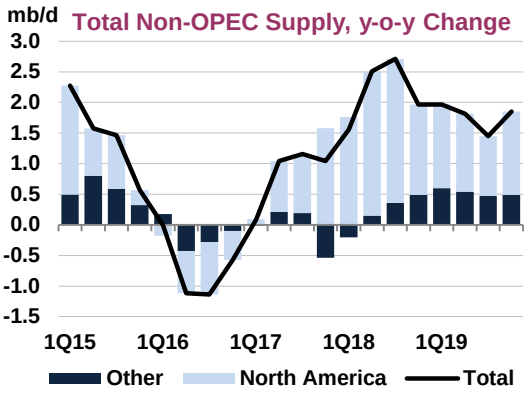
Production in **Venezuela** dipped a further 20 kb/d in September to 1.23 mb/d, roughly half the level of early 2016. Supply is likely to sink further by the end of the year given the deteriorating state of the oil sector. Skilled workers are quitting Petroleos de Venezuela, output from mature conventional oil fields is falling fast and upgraders operated by foreign joint venture partners in the Orinoco heavy oil belt are malfunctioning and running below capacity.

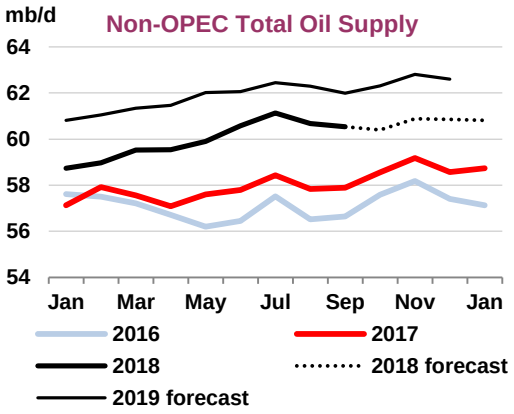


Output from **Ecuador** held at 530 kb/d. The government is seeking to boost capacity after launching a bid round for eight onshore exploration blocks in the eastern Oriente area. Ecuador hopes the so-called "Intracampos Round" will lure investment of $1 billion that could lead to nearly 20 kb/d of output.

Non-OPEC overview

Non-OPEC oil supply growth has been revised up to a record 2.7 mb/d y-o-y in 3Q18 after producers ramped up output in response to higher prices and as Vienna Agreement supply cuts were unwound. In North America, both US and Canadian oil production reached record highs, despite pipeline bottlenecks and discounted domestic crude prices. In the US, recent gains have come not only from prolific onshore LTO plays but also from the Gulf of Mexico, which hit a new record production level in July.





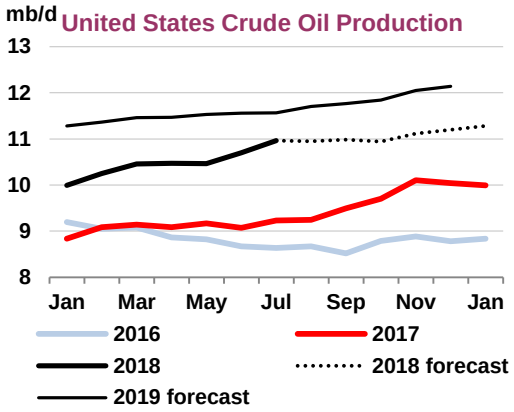
Russia is also breaking records, with crude oil output reaching an all-time high in September. Officials claim output could expand by another 200-300 kb/d over the next year, but the actual increase will depend on market needs. Chinese national oil companies are responding to higher prices and a call by the country's president to increase domestic production to improve energy security amid rising trade tensions. In August, output was at year-earlier levels for the first time in nearly three years. Oil production is also showing tentative signs of growth in Argentina on renewed interest in its vast shale resources. As a result, our forecast for non-OPEC supply has been revised up by 180 kb/d for 2018 and 130 kb/d for 2019, and is now seen growing by 2.2 mb/d and 1.8 mb/d, respectively.

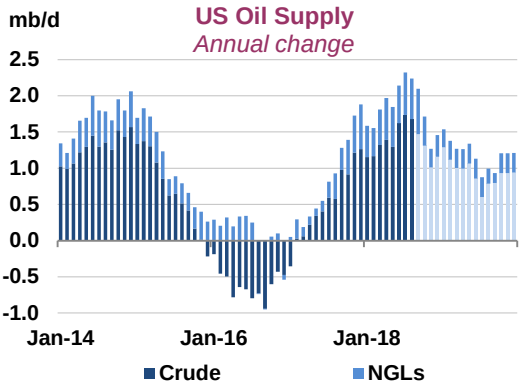
Non-OPEC Supply

(million barrels per day)

	2017	1Q18	2Q18	3Q18	4Q18	2018	1Q19	2Q19	3Q19	4Q19	2019
Americas	**20.3**	21.7	22.2	22.6	22.7	**22.3**	23.1	23.4	23.6	24.0	**23.5**
Europe	**3.5**	3.6	3.4	3.4	3.5	**3.4**	3.5	3.3	3.3	3.4	**3.4**
Asia Oceania	**0.4**	0.4	0.4	0.4	0.4	**0.4**	0.4	0.5	0.5	0.5	**0.5**
Total OECD	**24.2**	25.7	25.9	26.4	26.6	**26.2**	27.1	27.2	27.3	27.9	**27.4**
Former USSR	**14.3**	14.4	14.5	14.6	14.8	**14.6**	14.9	14.9	14.8	14.9	**14.9**
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	3.8	**3.8**	3.8	3.7	3.7	3.7	**3.7**
Other Asia	**3.5**	3.4	3.3	3.3	3.3	**3.4**	3.3	3.2	3.2	3.2	**3.2**
Latin America	**4.5**	4.5	4.5	4.5	4.7	**4.5**	4.7	4.8	5.0	5.0	**4.9**
Middle East	**1.2**	1.2	1.3	1.3	1.3	**1.3**	1.3	1.3	1.3	1.2	**1.3**
Africa	**1.4**	1.4	1.5	1.5	1.4	**1.4**	1.4	1.4	1.4	1.4	**1.4**
Total Non-OECD	**29.0**	29.0	29.0	29.1	29.3	**29.1**	29.5	29.5	29.5	29.7	**29.5**
Processing Gains	**2.3**	2.3	2.3	2.3	2.3	**2.3**	2.3	2.3	2.3	2.3	**2.3**
Global Biofuels	**2.5**	2.1	2.7	3.0	2.5	**2.6**	2.2	2.8	3.0	2.7	**2.7**
Total Non-OPEC	**58.0**	59.1	60.0	60.8	60.7	**60.2**	61.1	61.8	62.3	62.6	**61.9**
Annual Chg (mb/d)	**0.8**	1.6	2.5	2.7	2.0	**2.2**	2.0	1.8	1.5	1.9	**1.8**
Changes from last OMR (mb/d)	**0.00**	0.02	0.05	0.41	0.23	**0.18**	0.11	0.16	0.08	0.18	**0.13**

The **United States** remains the engine of non-OPEC supply growth, propelled by expansions in the shale patch and rebounding output offshore. In July, the latest month for which consolidated data are available, US oil production increased by a record 2.4 mb/d y-o-y, to 15.6 mb/d. Crude oil supply was up by 1.7 mb/d, to 10.96 mb/d, while NGL supply, at 4.4 mb/d, stood nearly 0.6 mb/d above a year ago. Month-on-month, output rose by a sharper than expected 330 kb/d. While onshore production was largely in line with expectations, the Gulf of Mexico rose by 190 kb/d to a record 1.85 mb/d. Onshore crude oil output increased by 80 kb/d overall as a 55 kb/d seasonal decline in Alaska partly offset gains elsewhere. For the year as a whole, US oil supplies are expected to expand by 1.85 mb/d, of which crude and condensates account for 1.4 mb/d. While Hurricane Gordon that hit the Gulf of Mexico in early September had only a minimal impact on production, Hurricane Michael that hit the Florida Panhandle in early October shut in as much as 700 kb/d of offshore output ahead of the storm. Assuming operations resume swiftly, Gulf of Mexico output is expected to fall to 1.6 mb/d in October.

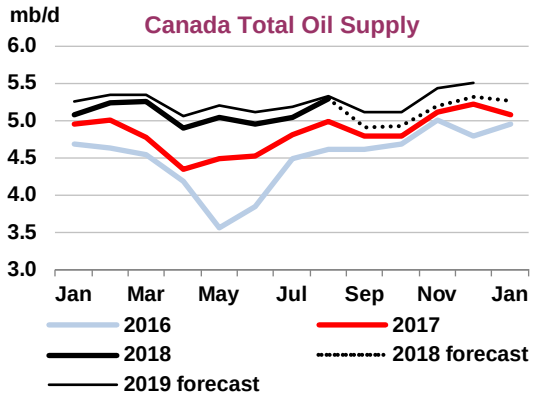


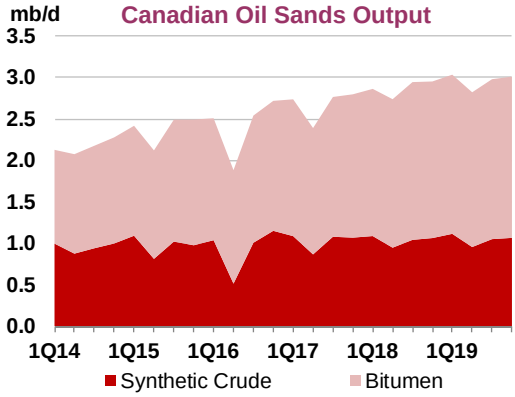


Growth is expected to ease in 2019, to 1.2 mb/d in total and 940 kb/d for crude. Producers have refrained from increasing activity even as prices rise, due in large part to Permian takeaway capacity constraints and discounted crude prices. In early October, 861 oil rigs were in operation, largely unchanged since the end of May. Moreover, several US proppant providers have scaled back activities arguing that completion activity has slowed. Meanwhile, midstream companies are doing everything in their power to speed up the completion of new pipelines to capture the higher margins. Following the

earlier than expected completion of Plains All American's 500 kb/d Sunrise expansion, EPIC Midstream Holdings LP announced it will convert a portion of its planned NGL pipeline to transport 400 kb/d of crude from the Permian to the Gulf Coast from 3Q19. Filling of the Sunrise pipeline has already impacted Permian prices. The line is expected to run 350 kb/d in November and full rates early next year.

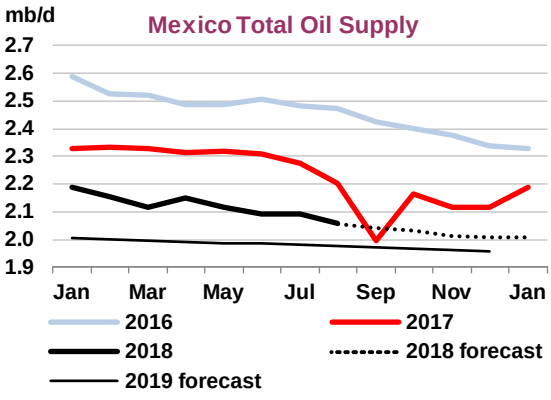
Booming **Canadian** oil production is again putting domestic heavy crude grades under pressure. Preliminary data for August suggest output hit a record high near 5.3 mb/d, 260 kb/d higher than our estimate, even as one of the country's large upgraders closed due to a malfunction. Synthetic crude oil output rose by 120 kb/d m-o-m to 1.14 mb/d, its highest since December while raw bitumen supplies rose by 95 kb/d to 2 mb/d, a new all-time high. The 360 kb/d Syncrude upgrader resumed full runs during September, but planned maintenance at CNRL's Horizon facility as well as at some offshore fields likely saw output ease. Record supplies have seen the discount of WCS to WTI blow out to an unprecedented $50/bbl.





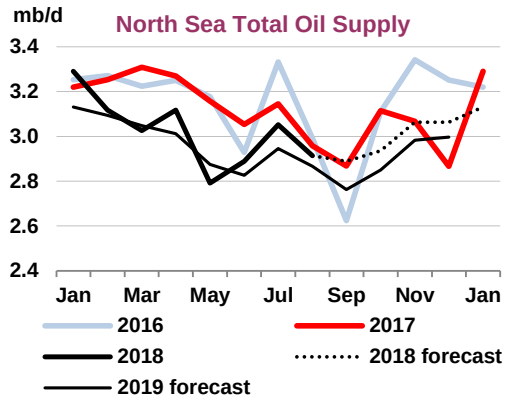
With no new pipelines set to come on line in the near-term, Canadian producers are increasingly turning to rail. According to the National Energy Board, in July shipments to the US hit a record 207 kb/d of crude and 378 kb/d including fuel oil. Rail companies are locking in customers with multiyear contracts, as the decision by a Canadian court to overturn the approval of the Trans Mountain pipeline project is firming up demand. Cenovus Energy, for instance, announced a three-year deal with Canada's CP Rail and CN Rail to transport 100 kb/d of crude from its oil sands facilities in Northern Alberta to the US Gulf Coast. Cenovus says shipping by rail from Alberta to the USGC is expected to cost just under US$20/bbl, although exact terms of its agreements with CN and CP were not disclosed. Last week, USD Partners announced it will expand capacity at its Hardisty rail terminal by 50% to 225 kb/d.

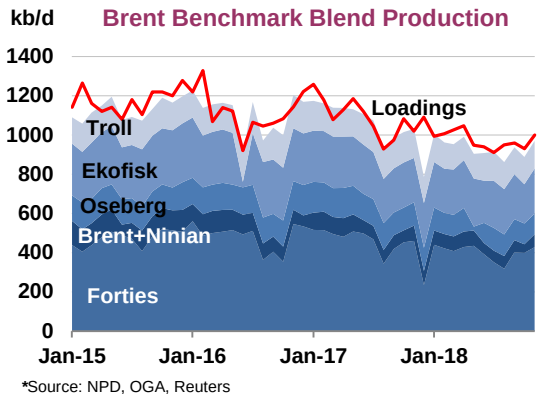
Mexican oil output dropped by 35 kb/d in August, standing 145 kb/d lower than a year ago, at 2.05 mb/d. Super light crude output led the decline, falling by 80 kb/d m-o-m, while light crude rose by 65 kb/d and heavy crude oil supplies dipped by 9 kb/d. The precipitous decline in light crude oil production has forced Pemex to turn to international markets to source feedstock for its refineries, which, after years of under-investment, have difficulties running the heavier grades. In early October, Pemex launched a tender to import a 350 kb cargo of light crude, having already said it is looking to import 100 kb/d of light crude, likely from the US, from late October. Following a decline of 235 kb/d in 2017, Mexico's oil production is expected to fall by 145 kb/d on average in 2018 and by 110 kb/d next year. Eni is expected to launch an early production phase of its Amoca, Mizton, Teocalli discovery in the Campeche Bay next year. Full field



production will start in late 2020 utilising a Floating Production, Storage and Offloading (FPSO) facility with a capacity of 90 kb/d.

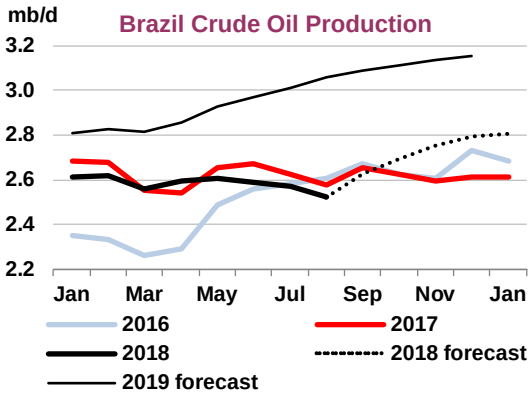
North Sea oil output dropped by 140 kb/d in August, in line with expectations. At 2.9 mb/d, production was 45 kb/d below a year earlier, its smallest annual decline since January. The biggest m-o-m drop came from **Denmark**, where output plunged to only 68 kb/d, from 122 kb/d in July and compared with 139 kb/d a year earlier. Danish oil production has slipped by an average of 28 kb/d, or 20% so far this year, to 110 kb/d. **Norwegian** oil supplies fell by 40 kb/d m-o-m, to 1.87 mb/d. Over the first eight months of this year, output was 135 kb/d below a year ago. In the **UK**, meanwhile, production slipped by 45 kb/d, to 990 kb/d, but was nevertheless 80 kb/d higher than a year ago. Loading schedules suggest North Sea crude supplies slipped further in September and October and are due to rebound slightly in November. BFOE shipments, including Troll, were set to rise to 1 mb/d in November, the highest since April of last year

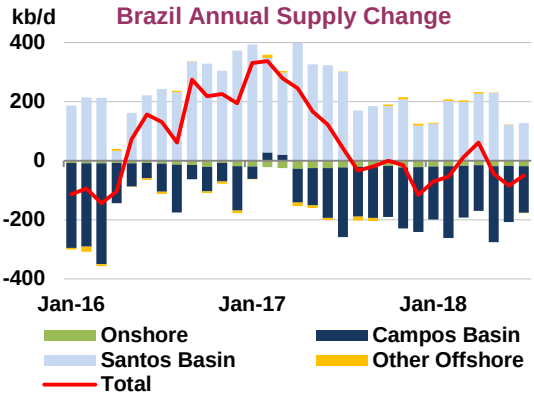




*Source: NPD, OGA, Reuters

Brazilian oil output dropped by 50 kb/d in August to 2.64 mb/d, some 40 kb/d below a year ago. Maintenance at FPSO Cidade de Angra dos Reis and FPSO Cidade de Maricá reduced output from the Lula field by 77 kb/d m-o-m to 0.8 mb/d. As a result, pre-salt output fell to 1.37 mb/d in August, from 1.45 mb/d in July. In the Campos basin, maintenance at the Albacora field also weighed, offsetting growth from the Tartaruga Verde field, which has ramped up to 24 kb/d since producing first oil in June. Output at the Buzios field that started up in April averaged 24 kb/d, a slight decrease from July.

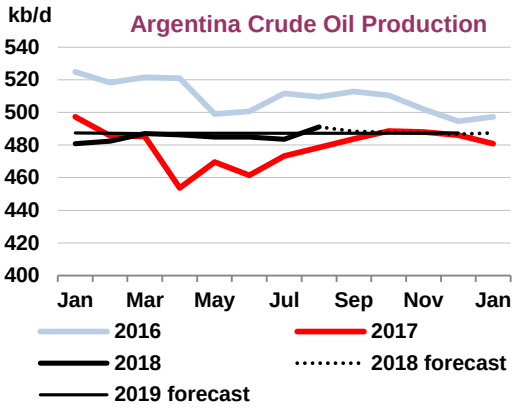


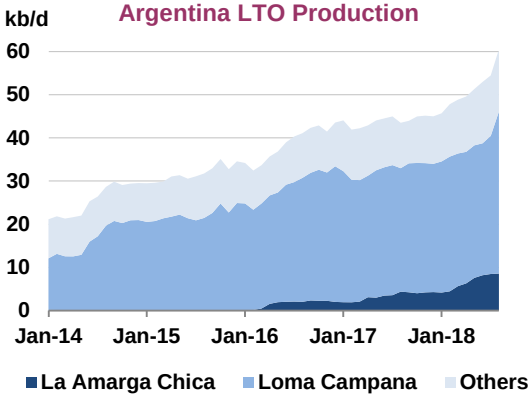


Output is set to rise during the second half of the year as the Buzios and Tartaruga Verde fields ramp up and new units are commissioned. Petrobras will launch the Lula Extreme South pre-salt field using the P-69 FPSO in the coming weeks. Later in the year, the P-67 FPSO at the Lula North field, the P-68 FPSO at the Berbigao field, and a further two units at the Buzios field are set to be commissioned, although Petrobras has admitted delivery of one or two units may slip to early 2019.

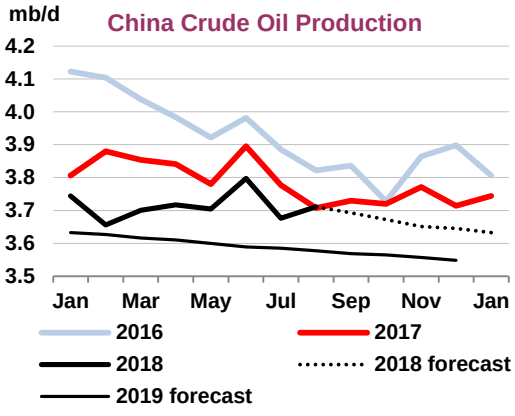
Brazil's fifth pre-salt round held in early October found takers for all four areas offered, and raised 6.82 billion reals ($1.7 billion) in signature bonuses. ExxonMobil, Shell and BP acquired operating stakes in three Santos Basin blocks under production sharing contracts. A consortium of Shell and Chevron won the Saturno prospect, while ExxonMobil and QPI won the adjacent Tita prospect. The ANP estimates that the Saturno and Tita areas may hold as much as 12.2 billion barrels of oil in place. A BP-led consortium with CNOOC and Ecopetrol won the Pau Brasil block, while Petrobras won the South-West of Tartaruga Verde area in the Campos basin. After four pre-salt rounds in less than a year, there are now five companies with operating assets under PSCs, including Petrobras, ExxonMobil, Shell, BP and Equinor.

In **Argentina**, crude and condensate production rose by 8 kb/d in August, to 490 kb/d – or 12 kb/d higher than a year earlier. Argentinian oil producers have stepped up activity in the Vaca Muerta tight oil play and production reached 60 kb/d in August, an increase of 39% in just one year. So far, higher tight oil output is offsetting declines in conventional supply, but industry and government officials hope the country's vast tight oil resources will underpin higher overall supplies in years to come.



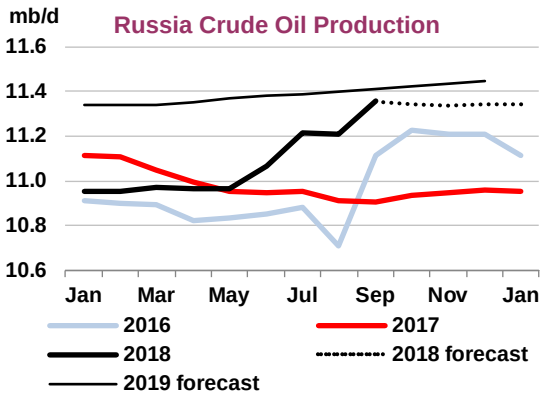


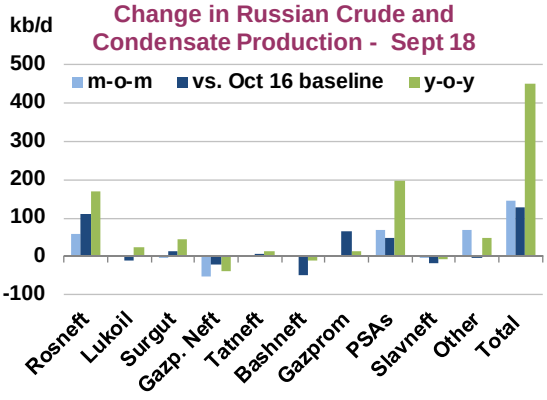
Responding to higher prices and a call by President Xi Jinping to boost national energy security, **China**'s oil producers are taking measures to arrest domestic oil supply declines. In August, crude oil output rose by 35 kb/d, to 3.7 mb/d, on par with year earlier for the first time in nearly three years. President Xi has asked national energy majors to boost domestic output amid a rising import bill and escalating trade tensions with the US. As a result, the largest producer, CNPC, said it will keep drilling through the winter at oil fields in the west of the country to boost output. The cost of oil engineering services has reportedly fallen to the lowest level in five years, helping make winter production economic. Production could see a further boost from the start-up in September of CNOOC's 1/3/8/9 block of the Penglai 19-3 oilfield off north China's Bohai Bay. The new block currently has two wells in production and daily output is expected to reach a peak of 59 kb/d in 2020. If successful, the measures put in place to boost output could lead to a revision of our supply forecast, which currently anticipates a decline of 90 kb/d in 2018 and 110 kb/d next year.



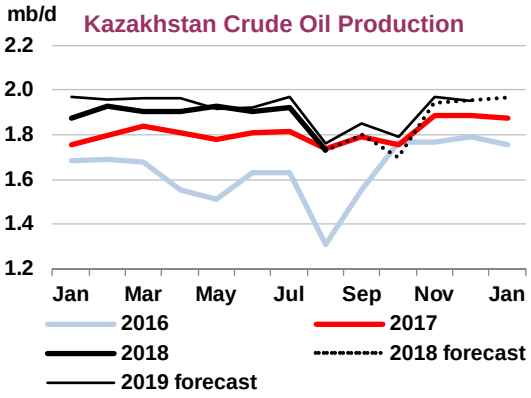
Russian crude and condensate production rose to a record 11.36 mb/d in September, up 450 kb/d on a year ago and 390 kb/d more than in May, just ahead of the revised Vienna Agreement. The monthly increase was underpinned by higher output from Rosneft and production sharing agreement producers, which raised supplies by 60 kb/d and 70 kb/d, respectively. Other smaller producers also increased output by a combined 68 kb/d while Gazprom Neft's production fell by 52 kb/d m-o-m.

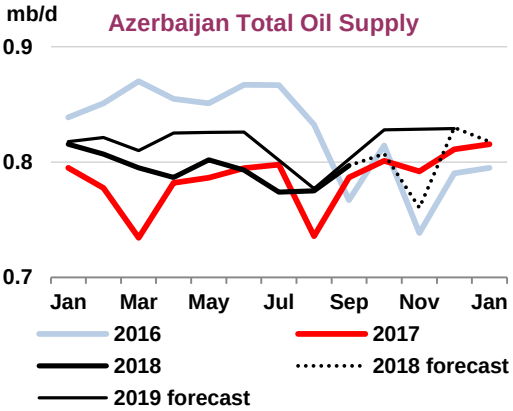
Russia's Energy Minister Alexander Novak said last month that Russia has the potential to raise crude oil supplies to as much as 11.547 mb/d within a year, but it would not happen without consulting partners in the Vienna Agreement.





Kazakhstan's oil production fell by 190 kb/d in August, in line with expectations. The m-o-m decline stemmed primarily from Tengiz, where planned maintenance affected flows. Kashagan production also slipped by 50 kb/d m-o-m, to 250 kb/d, offsetting gains from smaller producers. CPC loading schedules for September suggest Tengiz production recovered with shipments rising 115 kb/d to over 600 kb/d. Kashagan volumes held steady at around 250 kb/d. Overall exports were largely unchanged from August however, with lower shipments of other crudes. **Azeri** production rose to just shy of 800 kb/d in September, from 775 kb/d in August on higher condensate supplies. Output is expected to drop in November, with BTC loadings showing a 90 kb/d m-o-m decline. Higher condensate production from Shah Deniz will likely underpin a continued increase in output towards year-end, as the recently completed phase 2 expansion project ramps up to full capacity of around 120 kb/d.



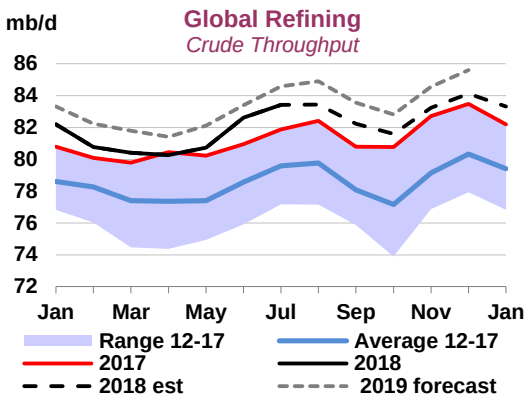


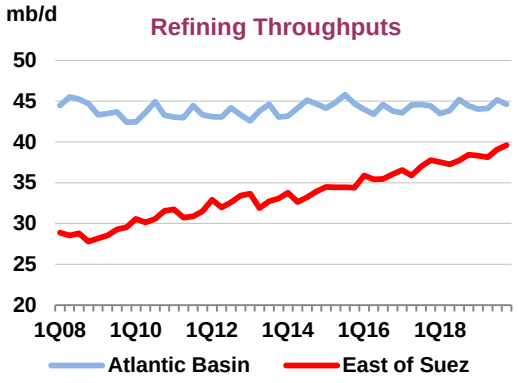
REFINING

Summary

With oil demand growth revised lower in this *Report*, a more pessimistic picture is now emerging for refiners worldwide. This is not helped by the recent surge in crude prices, driven by seasonally tighter crude markets in 3Q18. Even though incremental output from Saudi Arabia, Russia, Iraq and elsewhere has so far offset the declines in Iranian and Venezuelan flows, crude balances were tight, with draws estimated at about 650 kb/d in 3Q18. Refining margins instantly gave in to feedstock pressure, and in late September/early October they fell to their lowest levels since the beginning of the year.

We have extended our refinery runs forecast through end-2019 in this report, using a three-year average for maintenance shutdowns to define seasonality. This has revealed yet another looming challenge for refiners: competition from new refineries that will come online starting from 4Q18. Capacity additions of more than 2 mb/d are higher than the forecast demand growth for refined products in 2019. The bulk of additions, however, are likely to start or ramp up operations in the second half of the year. This is happening at a time when refining margins will enter a truly unpredictable period. The uncertainties are augmented by possible developments of Iranian and Venezuelan flows on one hand, and the countdown to the IMO 2020 marine fuels specification change on the other hand, that can possibly push diesel cracks to levels where they can carry refining margins independently. Overall, we forecast refinery runs increasing by 1.3 mb/d in 2019, compared to refined product demand growth of just 1 mb/d.





In terms of geography, the pattern of recent years continues. East of Suez will account for the lion's share of new additions, with two 400 kb/d complexes coming online in China and Saudi Arabia's 400 kb/d refinery, in Jazan. Malaysia is also bringing online the 300 kb/d first phase of RAPID, with several smaller-sized additions elsewhere in Asia. The only significant addition in the Atlantic Basin is the 200 kb/d STAR complex in Turkey that is currently being commissioned.

What is a departure from recent history, however, is the strong petrochemical orientation of the new refineries. Almost 1 mb/d of next year's new capacity is being built by Chinese textile conglomerates - Rongsheng, Hengli and Hengyi - that have taken the upstream integration (from the perspective of the downstream petrochemical sector) to new levels. China already has the highest degree of refining/petrochemical integration, with 75% of naphtha crackers owned and operated by refineries. The next phase of the integration process is driven by the petrochemical industry's clients, who want to capture the whole value chain. This is a strategy very much consistent with the future of oil demand growth, projected in the IEA's first comprehensive study "The Future of Petrochemicals", released on 5th October 2018. The sector is expected to become the main driver of oil demand growth, as transport goes through a transformative phase with stricter energy efficiency standards, penetration of alternative fuels and technologies and modal changes.

Global Refinery Crude Throughput[1]

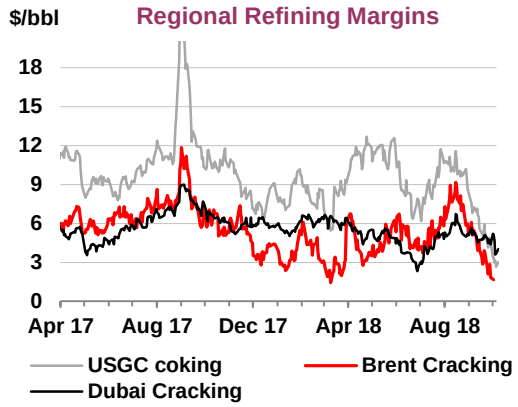
(million barrels per day)

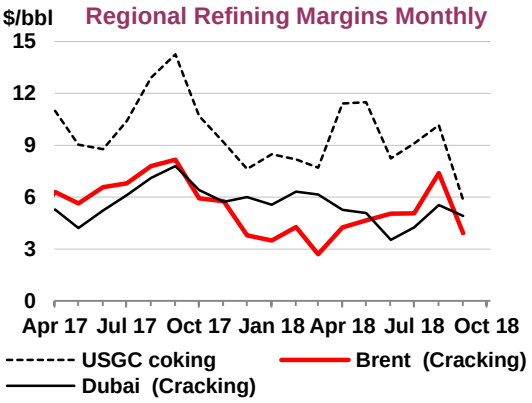
	2Q18	Jul 18	Aug 18	Sep 18	3Q18	Oct 18	Nov 18	Dec 18	4Q18	2018	2019
Americas	**19.4**	20.0	20.5	19.9	**20.1**	19.1	19.7	20.1	**19.6**	**19.5**	**19.8**
Europe	**11.7**	12.4	12.8	12.1	**12.4**	11.9	12.4	12.6	**12.3**	**12.1**	**12.2**
Asia Oceania	**6.6**	7.0	7.1	6.7	**6.9**	6.9	7.2	7.4	**7.2**	**7.0**	**7.0**
Total OECD	**37.8**	39.4	40.3	38.7	**39.5**	37.9	39.4	40.1	**39.1**	**38.6**	**39.0**
FSU	**6.9**	7.3	7.0	6.9	**7.1**	6.6	6.9	6.9	**6.8**	**6.9**	**6.9**
Non-OECD Europe	**0.5**	0.6	0.6	0.6	**0.6**	0.6	0.6	0.6	**0.6**	**0.6**	**0.6**
China	**12.0**	11.8	11.7	12.1	**11.9**	12.1	12.1	12.2	**12.2**	**12.0**	**12.5**
Other Asia	**10.5**	10.8	10.3	10.4	**10.5**	10.8	10.7	10.7	**10.7**	**10.6**	**11.0**
Latin America	**3.7**	3.6	3.6	3.5	**3.6**	3.6	3.6	3.5	**3.6**	**3.6**	**3.5**
Middle East	**7.6**	7.8	7.8	7.9	**7.8**	7.8	7.9	7.9	**7.9**	**7.7**	**7.9**
Africa	**2.0**	1.9	2.0	2.0	**2.0**	2.1	1.9	2.1	**2.0**	**2.0**	**2.0**
Total Non-OECD	**43.3**	43.9	43.0	43.5	**43.5**	43.6	43.8	44.0	**43.8**	**43.4**	**44.3**
Total	**81.1**	83.3	83.3	82.1	**82.9**	81.5	83.1	84.0	**82.9**	**82.0**	**83.3**
Year-on-year change	*0.7*	*1.5*	*1.0*	*1.4*	*1.3*	*0.8*	*0.5*	*0.6*	*0.7*	***0.9***	***1.3***

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

Margins

Refiners received an unpleasant surprise in September as the rapid rise in crude oil prices resulted in margins crashing in some regions to levels not seen since the start of the year even as global refinery throughput fell by 1.2 mb/d month on month (m-o-m) on seasonal maintenance. In North West Europe, complex margins effectively halved m-o-m, while simple margins went negative as fuel oil discounts to crude returned to double digits after a few strong months. The absolute loss in the Mediterranean margins, both sour and sweet, was greater than in North West Europe, but they remained at higher levels than in the north.





Singapore complex margins were somewhat less pressured, especially as Dubai weakened vs Brent, but this was from an already lower regional margin base when compared to other hubs. Singapore gasoil cracks were the only product to register a gain in September.

In an unusual occurrence, all US Gulf Coast margins that we track fell to single digits, not least due to continuously high refinery utilisation rates. The main margin pillar, gasoline, essentially started pricing a cheaper winter grade. US Midcontinent margins proved yet again their extreme disconnect with the seaborne hubs, as margins mostly rose m-o-m. Thanks to the discounted US inland and Canadian grades, these refineries enjoy some of the lowest feedstock costs, while product prices tend to be at a premium to other regions, too, resulting in margins routinely in the $15-30/bbl range.

IEA/KBC Global Indicator Refining Margins[1]

($/bbl)

	Monthly Average				Change	Average for week ending:				
	Jun 18	Jul 18	Aug 18	Sep 18	Sep 18-Aug 18	07 Sep	14 Sep	21 Sep	28 Sep	05 Oct
NW Europe										
Brent (Cracking)	5.05	5.06	7.39	3.92	-3.47	5.56	4.34	3.41	2.37	1.68
Urals (Cracking)	6.01	6.53	7.67	4.38	-3.29	5.06	4.36	4.47	3.63	3.43
Brent (Hydroskimming)	0.82	1.02	2.71	-0.70	-3.41	0.57	-0.32	-1.16	-1.90	-2.37
Urals (Hydroskimming)	1.21	2.09	2.53	-0.76	-3.29	-0.47	-0.80	-0.62	-1.16	-1.09
Mediterranean										
Es Sider (Cracking)	7.54	7.69	9.89	6.10	-3.78	7.68	6.48	5.54	4.72	4.05
Urals (Cracking)	5.97	6.86	8.67	4.74	-3.93	6.09	5.14	3.85	3.88	3.96
Es Sider (Hydroskimming)	3.69	3.98	5.70	1.68	-4.02	2.98	2.11	1.22	0.40	-0.22
Urals (Hydroskimming)	0.85	2.09	3.31	-0.94	-4.25	0.08	-0.45	-1.69	-1.70	-1.57
US Gulf Coast										
50/50 HLS/LLS (Cracking)	8.29	11.34	10.45	6.56	-3.89	7.15	6.77	6.19	6.25	5.81
Mars (Cracking)	4.32	7.24	5.43	1.79	-3.64	2.33	1.99	1.59	1.35	0.89
ASCI (Cracking)	3.98	6.91	5.13	1.47	-3.65	2.16	1.60	1.23	1.05	0.57
50/50 HLS/LLS (Coking)	10.03	12.62	12.00	8.33	-3.66	8.91	8.46	7.99	8.09	7.53
50/50 Maya/Mars (Coking)	8.25	9.11	10.16	5.83	-4.33	7.17	6.55	5.28	4.60	3.11
ASCI (Coking)	8.44	10.67	10.04	6.36	-3.68	7.20	6.61	5.94	5.84	5.29
US Midcon										
WTI (Cracking)	16.53	14.49	16.73	16.59	-0.15	16.84	17.58	16.12	15.85	14.53
30/70 WCS/Bakken (Cracking)	17.46	19.28	22.11	23.40	1.29	21.04	24.32	23.83	23.95	25.96
Bakken (Cracking)	16.30	17.62	20.27	20.60	0.33	19.64	21.37	20.84	20.36	20.76
WTI (Coking)	18.58	16.11	18.62	18.77	0.16	19.03	19.71	18.36	18.04	16.53
30/70 WCS/Bakken (Coking)	20.44	21.87	25.44	26.76	1.31	24.55	27.79	27.09	27.16	29.08
Bakken (Coking)	17.06	18.15	20.93	21.40	0.47	20.44	22.15	21.67	21.15	21.43
Singapore										
Dubai (Hydroskimming)	-0.28	1.05	1.55	0.13	-1.42	0.37	-0.08	0.19	0.05	0.24
Tapis (Hydroskimming)	1.84	2.23	3.99	1.34	-2.65	2.89	1.77	1.11	-0.39	-0.53
Dubai (Hydrocracking)	3.53	4.25	5.55	4.91	-0.64	5.40	4.73	4.91	4.60	4.47
Tapis (Hydrocracking)	4.66	4.78	7.11	5.08	-2.03	6.78	5.53	4.85	3.17	2.86

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)

OECD refinery throughput

We have revised upwards our estimates for OECD throughput in 3Q18 by 270 kb/d, based on higher August data for Europe and very strong September throughput in the US. On the other hand, our 4Q18 forecast has been reduced by 50 kb/d. After reaching a seasonal peak at 39.5 mb/d, the highest since 4Q07, throughput declines by 370 kb/d into 4Q18, driven by a seasonal slowdown in the US.

Forecasting 2019 refinery throughput for this group of industrialised countries is a difficult exercise. A slowdown in their refined products demand, combined with a strong growth spurt of non-OECD capacity is expected to put significant pressure on refining margins, especially when most of the crude consumed by OECD countries is imported from the rest of the world. Total oil demand growth in the OECD in 2019 is expected to be a mere 130 kb/d, after 300 kb/d of growth in 2018 (see *Demand*). Moreover, the growth in refined products is actually negative, as LPG/ethane demand alone grows by 160 kb/d in 2019, after 270 kb/d in 2018. In addition to this, the US is contemplating raising the ethanol blend in gasoline to 15% from 10%, which will further eat into refiners' market share.

On the other hand, at least from the second half of 2019 we should start seeing product cracks pricing in the new marine bunker fuels mandated for use from the start of 2020. The most likely scenario is an increase in diesel cracks and a decline in high-sulphur fuel oil cracks, as diesel is expected to contribute to the 0.5% sulphur bunker fuel pool or to be used directly by vessels. OECD refiners, on average, have higher diesel yields and lower fuel oil yields compared to the rest of the world, and may see an overall positive impact from the switch, but the mechanisms of pricing are likely to be far more intricate than these simplistic assumptions.

Refinery Crude Throughput and Utilisation in OECD Countries

(million barrels per day)

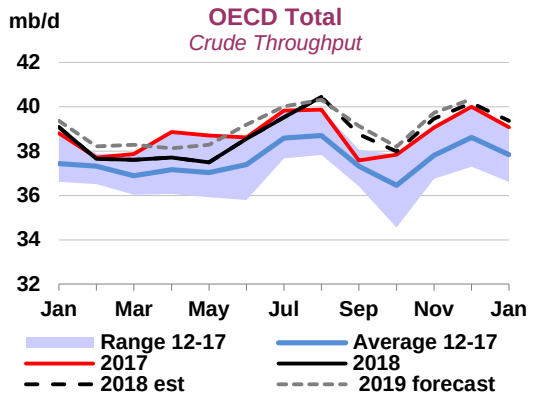
	Mar 18	Apr 18	May 18	Jun 18	Jul 18	Aug 18	Change from Jul 18	Change from Aug 17	Utilisation rate[1] Aug 18	Utilisation rate[1] Aug 17
US[2]	16.67	16.77	16.99	17.67	17.36	17.76	0.41	0.78	94%	90%
Canada	1.74	1.22	1.33	1.71	1.83	1.82	-0.01	-0.01	91%	95%
Chile	0.20	0.20	0.16	0.18	0.18	0.19	0.01	0.01	85%	81%
Mexico	0.63	0.76	0.69	0.65	0.64	0.68	0.05	-0.06	41%	45%
OECD Americas[3]	**19.23**	**18.94**	**19.18**	**20.21**	**20.00**	**20.46**	**0.46**	**0.72**	**89%**	**87%**
France	1.03	0.99	0.78	1.04	1.18	1.22	0.04	-0.01	99%	99%
Germany	1.79	1.83	1.83	1.93	1.90	1.88	-0.02	-0.11	93%	98%
Italy	1.35	1.38	1.34	1.28	1.33	1.44	0.11	-0.07	83%	87%
Netherlands	1.05	1.12	1.09	1.07	1.08	1.09	0.01	0.13	84%	74%
Spain	1.32	1.38	1.35	1.21	1.30	1.47	0.16	0.04	104%	101%
United Kingdom	0.93	1.07	0.98	1.07	1.09	1.17	0.08	0.01	92%	91%
Other OECD Europe	3.94	4.00	4.17	4.27	4.53	4.55	0.02	0.04	94%	93%
OECD Europe	**11.42**	**11.78**	**11.53**	**11.88**	**12.40**	**12.81**	**0.41**	**0.03**	**93%**	**93%**
Japan	3.27	3.16	2.83	2.53	2.97	3.26	0.29	-0.07	92%	94%
South Korea	2.74	2.93	3.13	3.03	3.15	2.97	-0.19	-0.14	94%	98%
Other Asia Oceania	0.85	0.79	0.73	0.81	0.90	0.85	-0.05	0.04	98%	94%
OECD Asia Oceania	**6.87**	**6.89**	**6.69**	**6.37**	**7.03**	**7.08**	**0.05**	**-0.18**	**93%**	**96%**
OECD Total	**37.51**	**37.61**	**37.40**	**38.46**	**39.43**	**40.35**	**0.92**	**0.57**	**91%**	**90%**

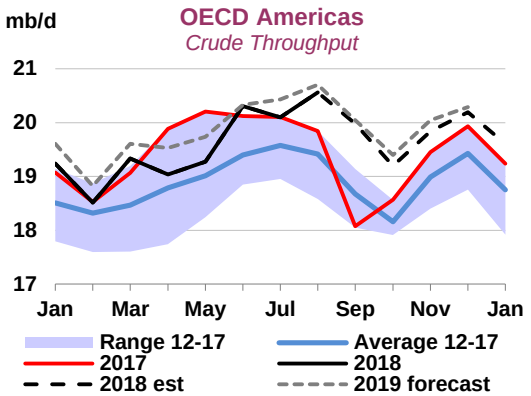
[1] Expressed as a percentage, based on crude throughput and current operable refining capacity

[2] US50

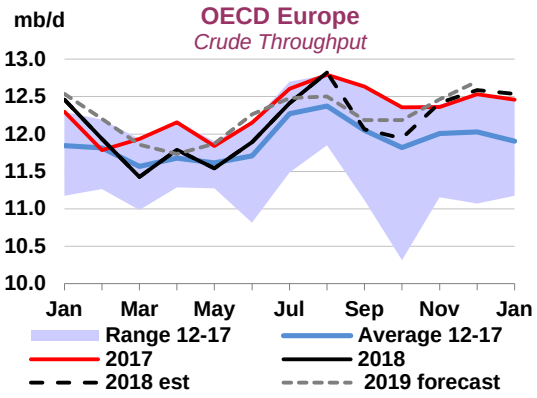
[3] OECD Americas includes Chile and OECD Asia Oceania includes Israel. OECD Europe includes Slovenia and Estonia, though neither country has a refinery

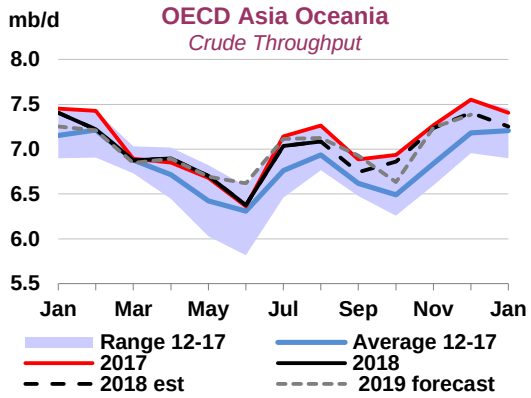
Tentatively, we have assumed a growth in OECD runs of 400 kb/d in 2019 because of the new capacity coming online this year in Turkey and Canada, as well as the stated ambition of the Mexican sector to increase refinery throughput.





The forecast of **US** throughput adds to the dilemma of existing vs new capacity utilisation. Three quarters into the year, our 2018 estimate for US refining growth is currently at 350 kb/d. This strong number was partly enabled by the decline of a similar size seen elsewhere in North America and, especially, in Latin America. Our 2019 forecast for the US is thus quite dependent on our assumptions of refinery runs in the rest of the Western Hemisphere. A new 80 kb/d refinery in **Canada** and an assumed, albeit modest, revival in **Mexico**, as well as a slowdown in Latin American declines narrows the future growth prospect for the US refiners to almost flat in 2019. Pemex, the operator of Mexico's refineries, has announced plans to increase processing by using light sweet grades to the tune of 100 kb/d. The first import tender announced early October, for US grades, was not successful due to tight pricing requirements, but the company is reportedly planning future tenders, targeting also other light grades of the Atlantic Basin.

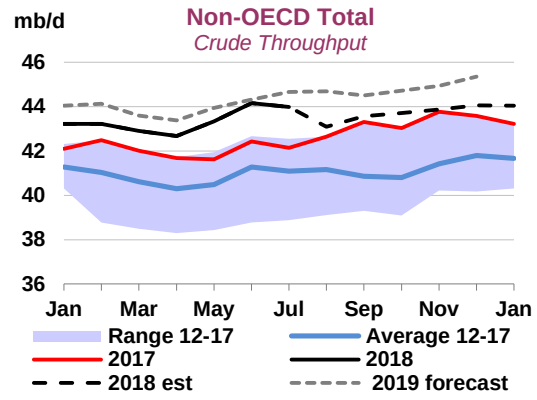


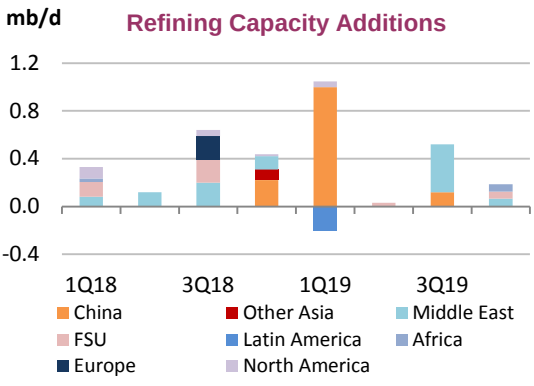


After a 180 kb/d decline in 2018, European runs are set to increase in 2019 by 140 kb/d, with the addition of a 200 kb/d refining and petrochemical complex in Turkey. In **OECD Asia**, the petrochemical drive results in yet another new, 90 kb/d, distillation unit in Korea, starting up in 4Q18. Several Korean condensate splitters, however, have the ability to switch to naphtha, which has reportedly been contemplated recently, due to Iranian condensate export restrictions. When this happens, crude and condensate intake will be lower. After an estimated 70 kb/d y-o-y decline in the region in 2018, on lower Japanese rates, 2019 is expected to see flat runs y-o-y, with Korean gains offsetting decreases elsewhere.

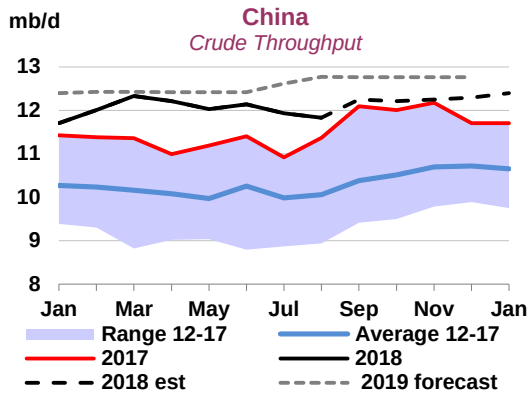
Non-OECD refinery throughput

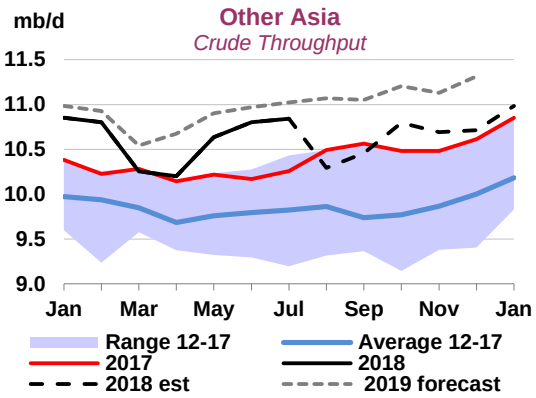
New capacity additions in 2019 will be at the highest level since 2009, just above 2 mb/d. This is 600 kb/d higher than our previous forecast as the commissioning of the 400 kb/d Zhoushan refinery in China and the 300 kb/d RAPID refinery in Malaysia was brought forward. For 2018, estimates for additions are unchanged at about 1.8 mb/d. Most of this year's new capacity and all of next year's additions take place in non-OECD countries. This contributes to the non-OECD throughput growth, estimated at 0.9 mb/d in both 2018 and 2019.





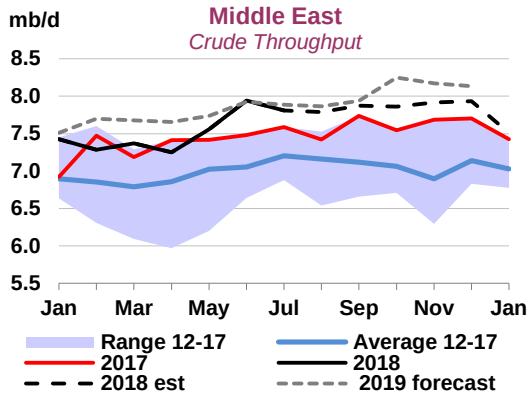
Chinese capacity additions account for more than half of 2019's total, or 1.1 mb/d. Two major sites, 400 kb/d each and a new, 140 kb/d refinery abroad, in Brunei, are being built by three Chinese textile conglomerates: Hengli and Rongsheng in China and Hengyi in Brunei. All are suppliers of global apparel brands. More than half of the refineries' output is expected to be petrochemical feedstock, but even if produced as a by-product, transport fuel output will still be significant. It remains to be seen whether they will be granted the full set of quotas for unconstrained runs: imports, processing and product exports quotas. For the moment, we assume that Chinese runs grow by less than the capacity increase i.e. by some 500 kb/d, which is slower than 2018's 600 kb/d, but higher than the refined product demand growth expected in 2019 (i.e. net of LPG), at 360 kb/d.

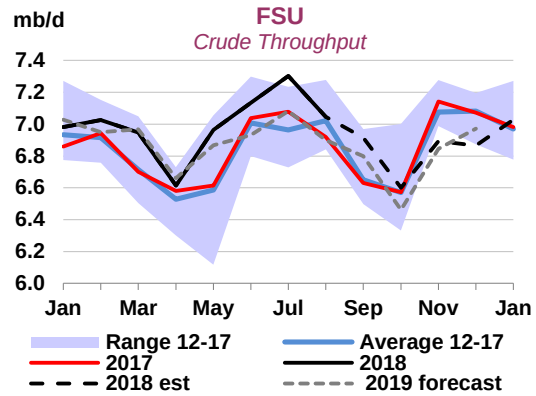




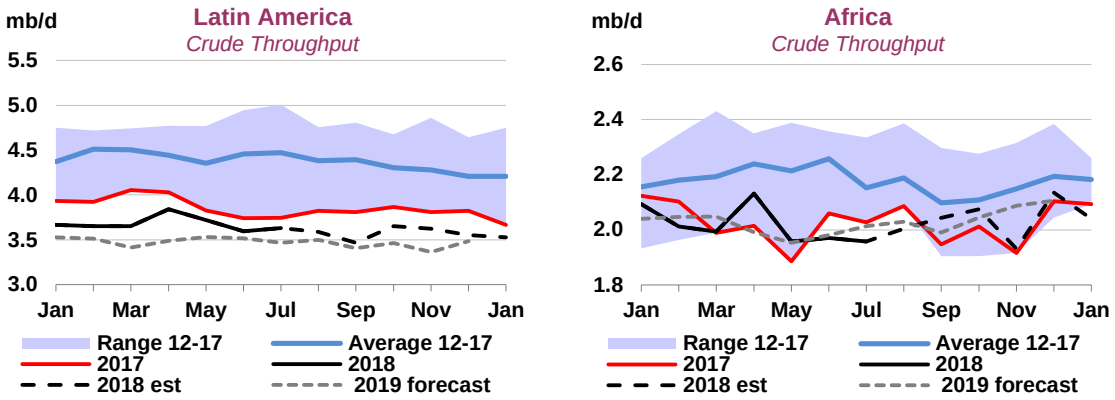
The above-mentioned **Brunei** and **Malaysian** new refineries are essentially the only additions in the rest of Asia, while the traditional regional powerhouse, India, will see no substantial new capacity in the next year. Altogether, refining throughput in Other Asia is expected to grow by 370 kb/d, after 260 kb/d this year.

In the **Middle East**, the only significant addition is the last one of Saudi Arabia's 400 kb/d sites, Jazan, expected to start-up in summer 2019, while Iraq focuses on repairs of war-damaged capacity. The regional throughput is estimated to increase by 200 kb/d in 2018 and by as much in 2019.





In the FSU, the main driver is **Russian** crude processing, which has traditionally been more dependent on the economics of crude vs product exports rather than new capacity additions. A new tax system entering into force from January will affect product export netbacks, possibly lowering domestic utilisation rates. There are already talks of enacting legislative measures to counter the impact on some refiners, but we have provisionally estimated a small net decline in runs, of 50 kb/d, after growth of 70 kb/d this year.



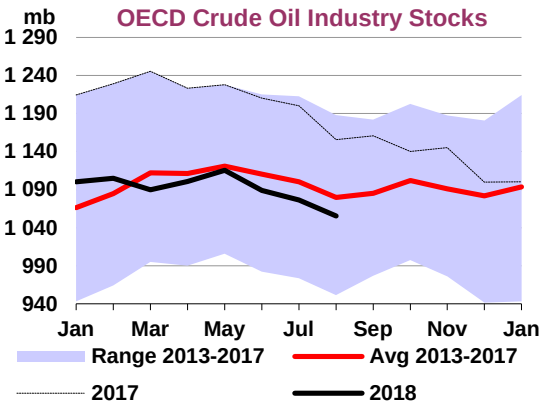
Latin America is the only region that will see a capacity reduction after incorporating shutdowns in Trinidad and Jamaica. Despite legal hurdles in Trinidad's case, we assume a full shutdown from 1Q19. This means that regional runs decline by a further 160 kb/d, after falling by 230 kb/d in 2018.

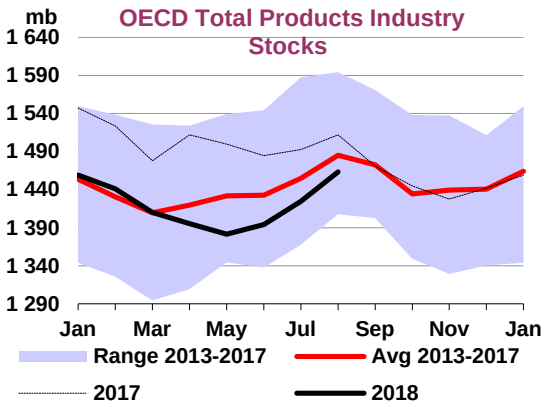
In **Africa**, small expansions are expected in Egypt, but the overall processing levels will stay largely flat y-o-y, which was also the case in 2018.

STOCKS

Summary

OECD commercial stocks rose 15.7 mb month-on-month (m-o-m) in August to 2 854 mb, their highest level since February. On a regional basis, inventories built strongly in the Americas as refinery output and seasonal LPG restocking outpaced crude production gains, and to a lesser extent in Asia Oceania. However, they fell sharply in Europe. Stock gains in August ran ahead of the five-year average increase of 14 mb. Overall, inventories were around 34 mb below the average at the end of the month. This metric has been relatively stable since May, as stocks have moved in line with historical patterns.





Product categories moved in a predictable way: crude stocks declined 20.7 mb, in line with the five-year average, and oil products built due to higher refinery throughput and seasonal restocking of propane. For September, preliminary data show a similar pattern, with crude stocks declining further (-14 mb) and oil products building sizeably in Japan and the US. Overall, when September preliminary figures are added to August data, we estimate that OECD industry stocks increased by 43 mb (470 kb/d) in 3Q18, the second straight quarterly stock increase and the largest since 1Q16.

Data show that global crude inventories have reduced over the last few months, and that they continued to do so in early October. However, oil products stocks have built sizeably in the OECD since May due to record refinery runs. Refining margins declined sharply in the northern hemisphere in August.

Preliminary Industry Stock Change in August 2018 and Second Quarter 2018

	August 2018 (preliminary) *(million barrels)*				August 2018 (preliminary) *(million barrels per day)*				Second Quarter 2018 *(million barrels per day)*			
	Am	Europe	As. Ocean	Total	Am	Europe	As. Ocean	Total	Am	Europe	As. Ocean	Total
Crude Oil	**-9.5**	**-14.1**	**2.9**	**-20.7**	**-0.31**	**-0.45**	**0.09**	**-0.67**	**-0.14**	**0.12**	**0.01**	**-0.01**
Gasoline	3.3	-0.3	-0.3	2.7	0.11	-0.01	-0.01	0.09	-0.07	-0.14	0.00	-0.20
Middle Distillates	11.4	6.7	2.0	20.2	0.37	0.22	0.07	0.65	-0.16	-0.12	0.04	-0.24
Residual Fuel Oil	0.2	-0.6	-0.5	-0.9	0.01	-0.02	-0.02	-0.03	-0.06	-0.01	0.03	-0.04
Other Products	15.6	-0.1	1.4	16.8	0.50	0.00	0.04	0.54	0.34	0.00	-0.03	0.31
Total Products	**30.5**	**5.7**	**2.6**	**38.8**	**0.98**	**0.18**	**0.08**	**1.25**	**0.06**	**-0.27**	**0.04**	**-0.18**
Other Oils[1]	-1.9	-3.2	2.7	-2.4	-0.06	-0.10	0.09	-0.08	0.11	0.03	0.06	0.20
Total Oil	**19.1**	**-11.6**	**8.2**	**15.7**	**0.62**	**-0.37**	**0.26**	**0.50**	**0.03**	**-0.13**	**0.11**	**0.01**

1 Other oils includes NGLs, feedstocks and other hydrocarbons.

Revised data showed a sizeable stock increase of 13.9 mb versus initial estimates for the OECD in July, prompted by upward modifications in Asia Oceania (+7.6 mb), Europe (+3.7 mb) and the Americas (+2.6 mb). There was also a data revision recorded for June, but, at 1 mb, it was small.

Revisions versus September 2018 Oil Market Report

(million barrels)

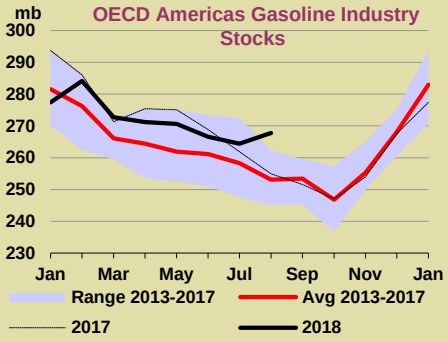
	Americas		*Europe*		*Asia Oceania*		*OECD*	
	Jun-18	Jul-18	Jun-18	Jul-18	Jun-18	Jul-18	Jun-18	Jul-18
Crude Oil	**0.0**	**-1.7**	**0.0**	**-2.8**	**0.0**	**7.0**	**0.0**	**2.5**
Gasoline	0.4	2.4	0.1	-0.2	0.0	0.3	0.5	2.4
Middle Distillates	-0.5	2.3	0.3	4.2	0.0	1.7	-0.1	8.2
Residual Fuel Oil	0.1	-0.2	0.0	0.9	0.0	-0.4	0.1	0.2
Other Products	-0.2	-4.6	0.0	2.6	-0.1	-0.6	-0.4	-2.6
Total Products	**-0.2**	**-0.2**	**0.4**	**7.5**	**-0.1**	**0.9**	**0.1**	**8.1**
Other Oils[1]	0.8	4.5	0.0	-1.0	0.0	-0.2	0.8	3.3
Total Oil	**0.6**	**2.6**	**0.4**	**3.7**	**-0.1**	**7.6**	**1.0**	**13.9**

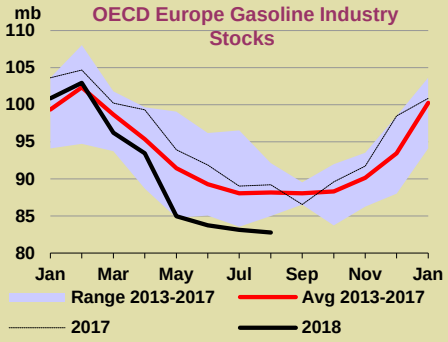
1 Other oils includes NGLs, feedstocks and other hydrocarbons.

Gasoline stocks draw, just not in the usual place

North America is the largest demand centre for gasoline globally and a significant importer, especially during the May-August period when drivers take to the roads. For this reason, stockpiles typically follow a strongly seasonal pattern, drawing between January and October and building during the fourth quarter. Europe, by contrast, does not consume as much gasoline and is a net exporter. However, since the beginning of 2018, gasoline stocks have fallen more in Europe than in the Americas, for the first time since 2013.

OECD Europe gasoline holdings stood at 83 mb at the end of August, down 10.7 mb from April and at their lowest level since IEA records began in 1980. Gasoline stocks in the Americas fell less during the same period, by 3.4 mb, and have been constantly above their five-year average since February.





Record high refinery throughput in the US over the last few months, the result of lower crude prices versus international benchmarks and higher LTO production, has helped to boost gasoline stocks (even as refiners targeted diesel production). And higher end-user product prices have ensured supplies from refineries ran ahead of consumption. Gasoline demand fell 45 kb/d y-o-y in the Americas during 2Q18 and a further 95 kb/d in 3Q18, IEA data show. In Europe, the exact opposite has happened. First, demand rose in 2Q18 and 3Q18 in spite of higher prices, boosted by a lower diesel-gasoline tax differential at the pump and higher gasoline car registrations. Second, refineries have reduced throughput compared with a year ago because of higher crude prices, and, like in the US, they favoured diesel rather than gasoline output. Third, demand for the continent's surplus gasoline, especially from the Middle East, has been high.

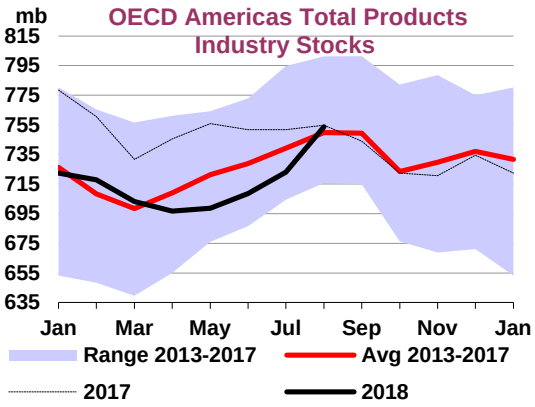
When expressed in days of forward demand, European gasoline stocks remain much higher than in the Americas (43.5 days versus 24.3 days at end-August) as the latter's consumption base is much higher. However, the latest data underscore the extent to which rising LTO production and evolving demand patterns have upended old assumptions about gasoline stock seasonality in the northern hemisphere.

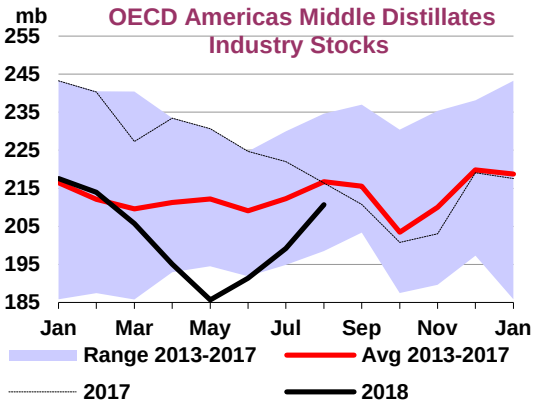
Recent OECD industry stock changes

OECD Americas

Commercial stocks in the OECD Americas swelled in August due to strong refinery output. They were up 19.1 mb m-o-m to 1 499 mb. Measured against the five-year average build of 5.6 mb, this was significant.

This was also the third straight month of inventory gains in the region, and stocks are back above the five-year average and at their highest level since November 2017. Oil product stocks increased almost three times as much as normal during the month, by 30.5 mb to 754 mb. Record high refinery throughput in the US running ahead of end-user consumption was largely responsible. In August, all major product categories gained, including gasoline (+3.3 mb), which normally draws at this time of year. Middle distillate stocks were up 11.4 mb m-o-m to 211 mb, while 'other products' increased by a significant 15.6 mb to 240 mb. The region's middle distillate inventories have recovered strongly since reaching a four-year low in May, while other products (i.e. LPG) appear plentiful ahead of the autumn and winter seasons, which normally bring higher demand.





By contrast, crude oil stocks fell by 9.5 mb m-o-m to 555 mb, their lowest level since January 2015, because of increased refinery activity. US crude exports fell to 1.75 mb/d in August, from July's 2.14 mb/d and June's record 2.20 mb/d, according to the US Census Bureau. Crude imports also fell. The reduction in OECD Americas crude stocks in the past few months has been remarkable given that Canada and the US have boosted production significantly.

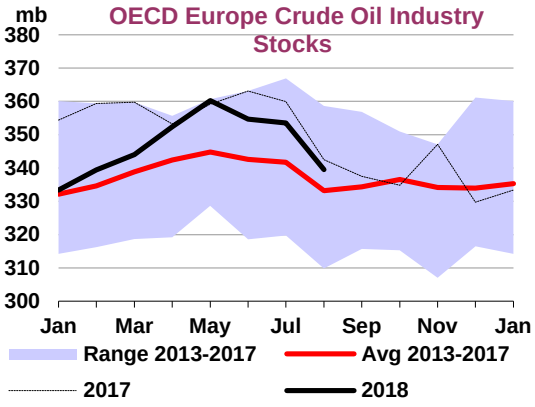
Preliminary data from the US Energy Information Administration up until 28 September shows another significant build in oil stocks of 22.1 mb, the largest recorded since January 2017. Crude inventories increased moderately, by 2.5 mb m-o-m, as refineries slowed down runs and began seasonal maintenance work. Once again, oil product inventories increased the most with higher diesel (+2.2 mb), heating oil (+0.8 mb) and jet fuel (+4.2 mb) stocks as well as higher-than-seasonal gains in propane (+5.3 mb). Crude exports went up during the month to back above 2 mb/d.

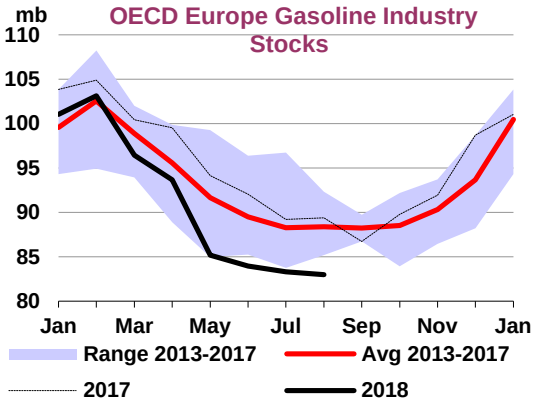
The US Department of Energy plans to sell 11 mb of oil from the Strategic Petroleum Reserve in October and November. This will reduce the SPR to 649 mb, from 695 mb at the start of 2017, following a series of sales made in response to US legislation. In total, seven different acts of Congress call for the sale of around 280 mb from the SPR over the 2017-2027 period.

OECD Europe

Commercial holdings in OECD Europe fell sharply in August, by 11.6 mb to 953 mb, partly offsetting gains in the Americas. Inventories stood 1 mb below the five-year average at end-month, the first deficit registered since April 2015. Crude stocks fell the most, by 14.1 mb, to a seven-month low of 340 mb. NGL inventories also declined 3.2 mb. Refinery runs increased 400 kb/d, helping to deplete crude holdings.

Oil product inventories gained 5.7 mb to 535 mb, due to higher refinery runs and higher diesel and jet fuel imports. Middle distillate holdings were up 6.7 mb on the month to 272 mb. However, gasoline stockpiles declined 0.3 mb to 83 mb, thus reaching their lowest level since IEA records began in 1980 (See *Gasoline stocks draw, just not in the usual place*). Stocks of other products drew moderately.

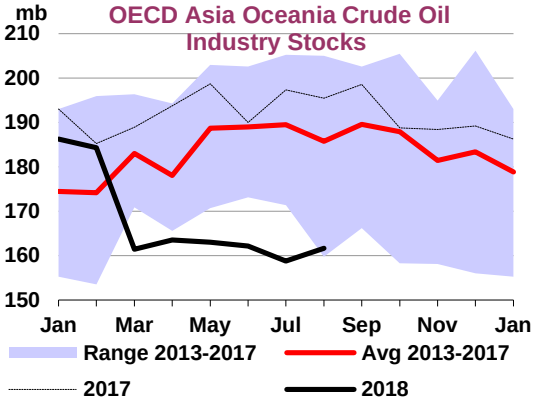


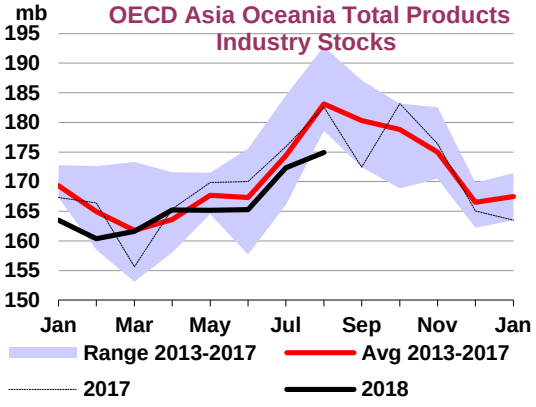


Preliminary data from *Euroilstock* for September showed European oil stocks falling by a further 8.1 mb m-o-m. There was an overall draw in crude (-6.5 mb) explained by decreases in the Netherlands (-3.7 mb), Portugal (-3.3 mb) and the UK (-1.5 mb). Inventories of oil products also decreased (-1.6 mb) with lower refinery throughput seen in Italy and Spain during the month. The largest draw for oil products was for middle distillates (-1.7 mb), followed by fuel oil and gasoline. Naphtha was the only product to show a stock gain during the month.

OECD Asia Oceania

Commercial stocks in OECD Asia Oceania increased seasonally in August, by 8.2 mb to 402 mb. The gains were almost equally split between crude (+2.9 mb), NGLs (+2.7 mb) and oil products (+2.6 mb). Even if crude holdings inched up during the month, they remained close to their lowest level in several years following the expiration of storage agreements in Korea earlier in the year. By contrast, oil product inventories are broadly in line with their respective five-year average.





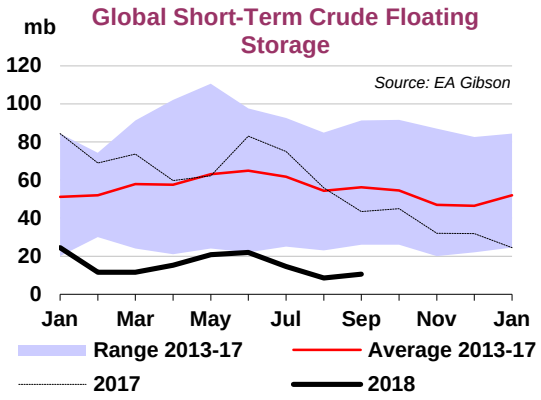
Preliminary data from the *Petroleum Association of Japan* (PAJ) for September show a stronger-than-usual decrease in oil stocks of 7.5 mb, driven by a sharp drop in crude inventories (-10 mb) on lower crude imports. Oil product stocks were up 2.4 mb, aided by continuous kerosene restocking (+2 mb) ahead of the winter as well as higher naphtha holdings (+1.3 mb). Refinery runs decreased during the month, suggesting the product build was due to higher imports. Japan's clean product imports increased to their highest level in more than a year, data from *Kpler* showed.

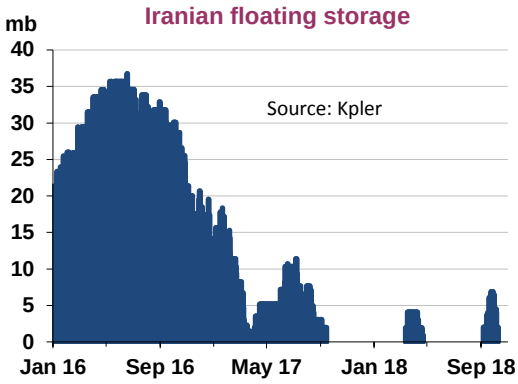
Other stock developments

Stockpiles in the 22 non-OECD countries covered by the JODI database declined 2.8 mb m-o-m during July, the latest month for which data is available. Crude stocks were down 2.9 mb with falls registered in Saudi Arabia, the Philippines, Iraq, Chinese Taipei and Romania, among other countries. NGL and oil

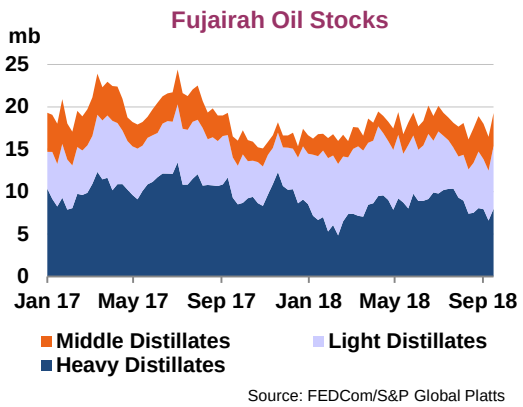
product stocks were broadly unchanged. Overall, the JODI database shows a 33.9 mb gain in oil stocks since the end of 2017, with almost three quarters of the build occurring in products rather than crude.

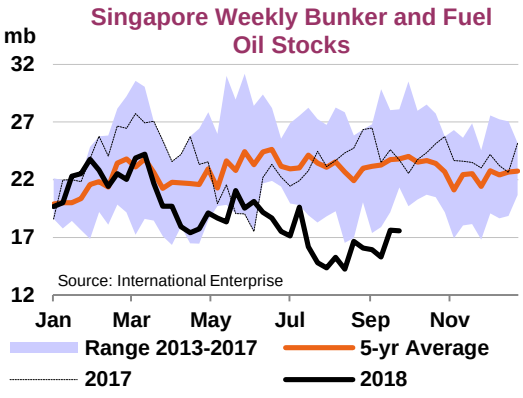
Short-term crude floating storage increased slightly during September, by 2 mb m-o-m to 11 mb, but remained at historically low levels, according to *EA Gibson*. While oil tankers waiting offshore Northwest Europe found willing buyers among European refiners during the month, leading to a 4.3 mb reduction in floating storage in the region, there was a build of 6.3 mb in the Middle East driven by Iran. Iranian floating storage was estimated at 8 mb at the end of the month, as more customers stepped away from buying oil ahead of US sanctions. Interestingly, Iranian crude floating storage went back down in early October as several cargoes set sail for China and India, data from *Kpler* showed.





Figures for Chinese stocks from *China Oil, Gas and Petrochemicals* remained unavailable for the fourth straight month. Customs data for the month of September was also not available at the time of writing, making it problematic to estimate crude stock levels. Import figures derived from tanker tracking data as well as estimates for crude production and refinery throughput imply a moderate crude stock build of around 8 mb during September. By contrast, satellite figures available from *Kayrros* for 49 locations showed a modest draw of 4-5 mb for the month.

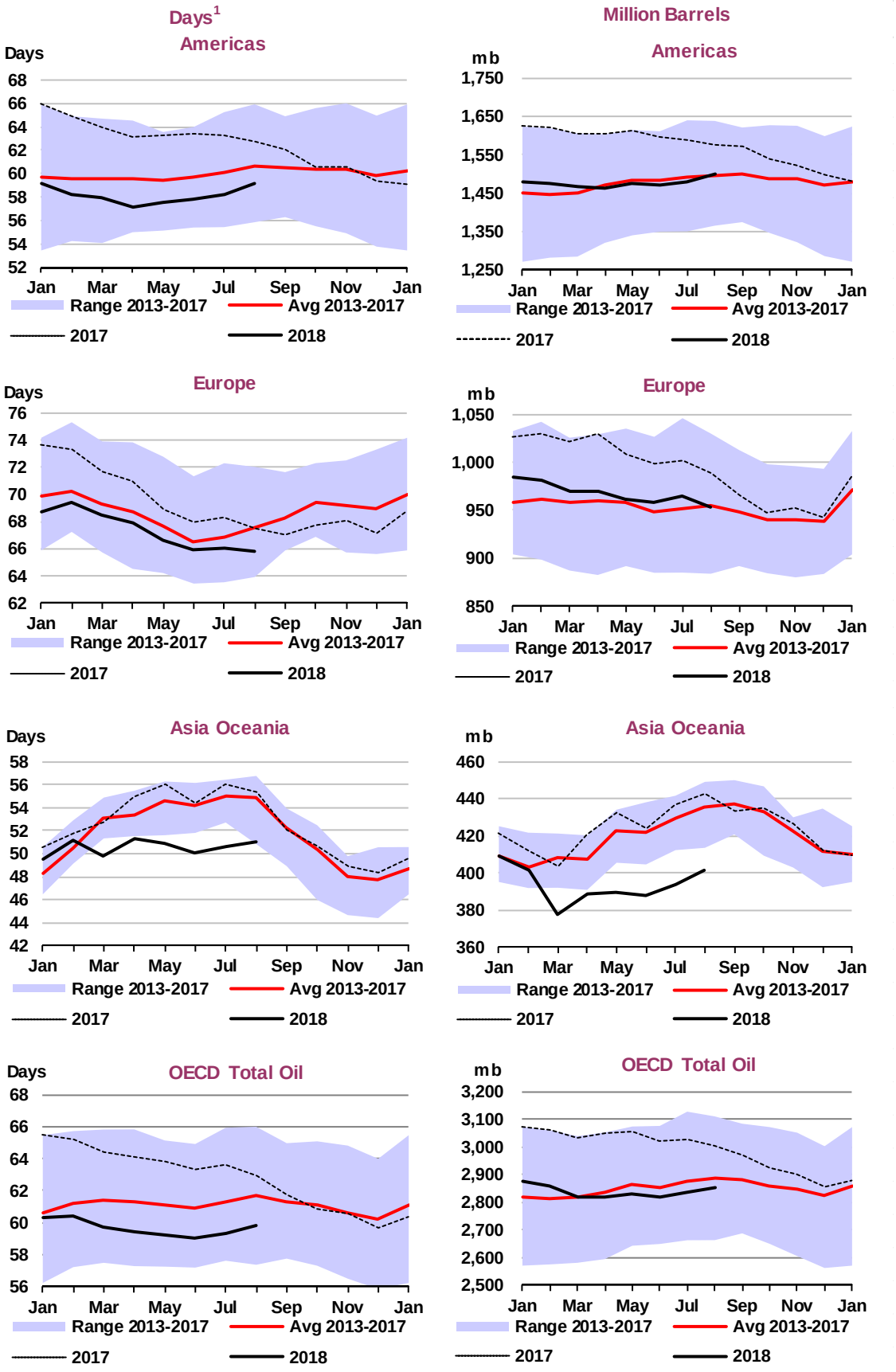




Oil stocks in Fujairah rose 2 mb m-o-m to 19 mb at end September, helped by restocking of light (+1.6 mb) and heavy distillates (+0.3 mb), data from *FEDCom/S&P Global Platts* showed. Inventories of fuel oil and bunker fuel in Singapore continued to recover during the month, after falling to a nine-year low in July. Stocks gained 1.1 mb m-o-m to 18 mb and were boosted by higher imports. However, falls in light and middle distillates inventories meant overall oil stocks decreased 0.7 mb m-o-m.

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

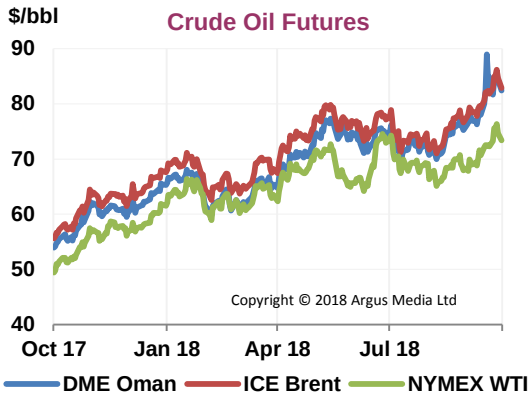
PRICES

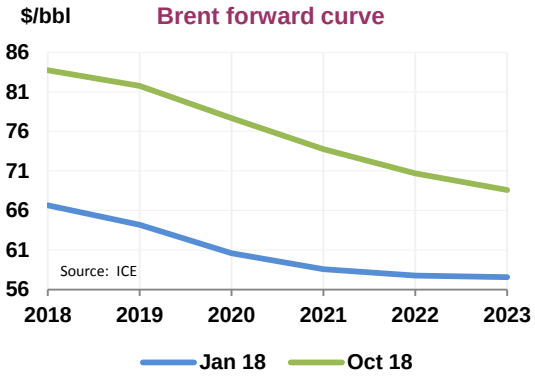
Market overview

Despite recent increases in global supply, prices have reached four-year highs as the date for Iranian sanctions draws near, Venezuelan output dwindles and available spare production capacity declines. ICE Brent has gained more than NYMEX WTI, improving the export economics of US crude. On 10 October Hurricane Michael made landfall on the US Gulf Coast. There has been little impact on prices even though a significant amount of Gulf of Mexico production has been shut-in. In the Middle East, the anticipation of lower Iranian exports saw differentials for key grades, with the exception of those from Iran, strengthen. In product markets, the seasonal reduction in demand for transport fuels weighed on refining margins. However, gasoil markets gained on strong Asia Pacific demand and disruptions to supply.

Futures markets

At the beginning of October ICE Brent futures rose above $85/bbl, and NYMEX WTI exceeded $75/bbl, for the first time since November 2014. Brent prices touched $80/bbl in May, but this is the first time gains have been sustained above this level, for over two weeks so far, since the dramatic collapse in oil prices from over $100/bbl in 2014. It is not only prompt prices that have risen; the Brent forward curve has shifted up and prices for contracts expiring several years out have gained by around $13/bbl since the start of the year. As prompt prices have seen the largest movement, the forward curve's backwardation has steepened.





The ICE Brent – NYMEX WTI spread widened by $3.04/bbl in September, with WTI trading at a discount of $9.03/bbl on average. While geopolitical uncertainty gave Brent a relatively large boost, ongoing infrastructure constraints and reduced refining activity restricted gains for US crude. The Brent-Dubai Exchange of Futures for Swaps (EFS), which had fallen in August to $1.85/bbl, rose sharply at the beginning of September, stabilising at $3.40/bbl on average.

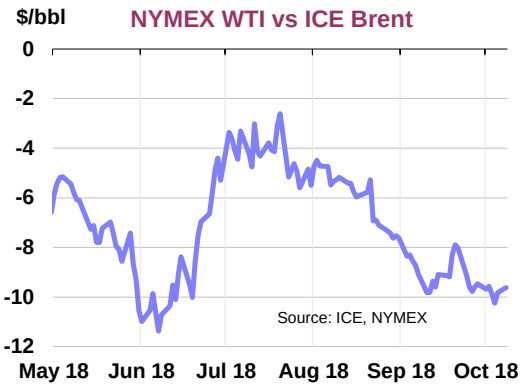
On 26 September, DME Oman prices spiked up to $88.96/bbl, staying above Brent prices for four consecutive days. This is unusual as the Brent benchmark is considered to represent light sweet crude, while Oman futures price a lower quality crude. Some market sources have speculated that the spike is due to buying activity by Chinese independent refiners. In July, Saudi Aramco announced that DME Oman would be used as a component of the official pricing formula for sales of its crude in Asian markets.

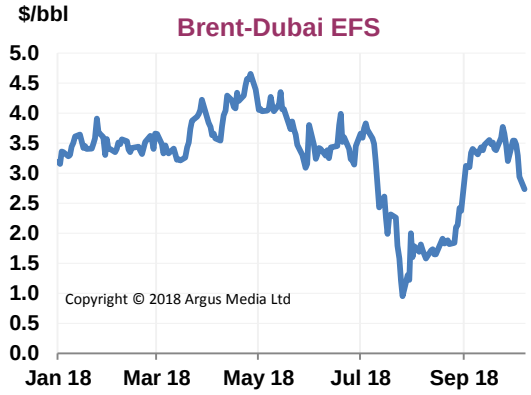
Prompt Month Oil Futures Prices

(monthly and weekly averages, $/bbl)

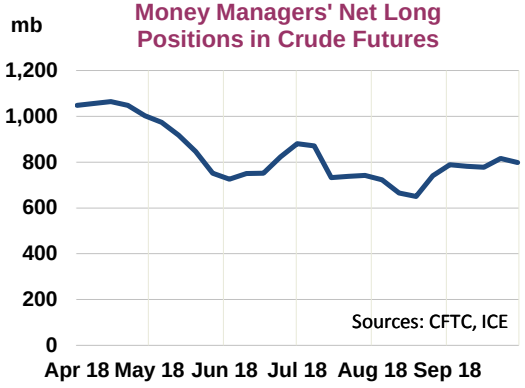
	Jul	Aug	Sep	Sep-Aug Avg Chg	% Chg	Week Commencing: 03 Sep	10 Sep	17 Sep	24 Sep	01 Oct
NYMEX										
Light Sweet Crude Oil	70.58	67.85	70.08	2.23	3.3	68.53	68.95	70.29	72.26	75.12
RBOB	88.24	86.23	84.55	-1.68	-1.9	82.74	83.76	84.29	87.06	88.86
ULSD	89.78	90.43	94.58	4.14	4.6	93.62	93.75	93.60	97.15	101.18
ULSD ($/mmbtu)	15.83	15.95	16.68	0.73	4.6	16.51	16.53	16.51	17.13	17.84
Henry Hub Natural Gas ($/mmbtu)	2.79	2.91	2.90	-0.01	-0.4	2.79	2.81	2.92	3.04	3.16
ICE										
Brent	74.95	73.84	79.11	5.27	7.1	77.38	78.49	78.80	81.77	84.96
Gasoil	88.15	88.45	92.94	4.50	5.1	92.23	91.79	92.09	95.66	99.33
Prompt Month Differentials										
NYMEX WTI - ICE Brent	-4.37	-5.99	-9.03	-3.04		-8.85	-9.54	-8.51	-9.51	-9.84
NYMEX ULSD - WTI	19.20	22.58	24.50	1.91		25.09	24.80	23.31	24.89	26.06
NYMEX RBOB - WTI	17.66	18.38	14.47	-3.91		14.21	14.81	14.00	14.80	13.74
NYMEX 3-2-1 Crack (RBOB)	18.17	19.78	17.81	-1.97		17.84	18.14	17.10	18.17	17.85
NYMEX ULSD - Natural Gas ($/mmbtu)	13.04	13.04	13.78	0.74		13.72	13.72	13.59	14.09	14.68
ICE Gasoil - ICE Brent	13.20	14.61	13.83	-0.77		14.85	13.30	13.29	13.89	14.37

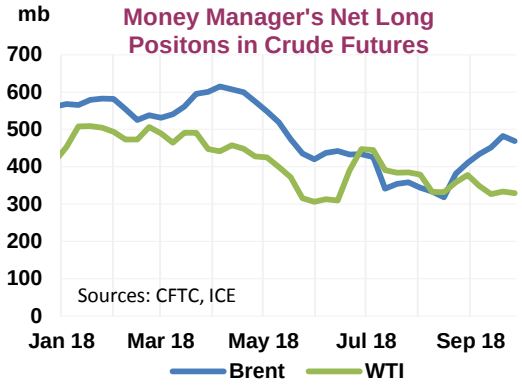
Source: ICE, NYMEX.





In product futures markets, prompt ICE gasoil contracts strengthened against those priced two to three months out indicating market tightness. Global gasoil demand, particularly in Asia, is strong and refinery maintenance and outages have disrupted supplies. The Singapore regrade spread, i.e. the difference between jet fuel and gasoil prices, fell to the lowest in four and a half years on the back of strong gasoil prices.

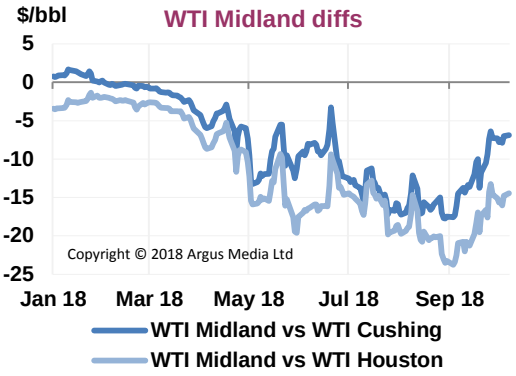


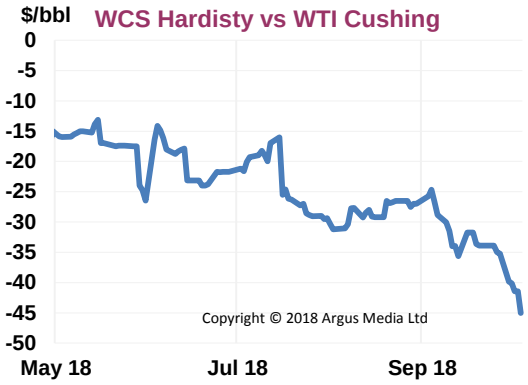


Money managers' holdings of speculative positions that oil prices will rise have been on the increase, with net length in crude futures growing by 58 mb since the end of August. At 798 mb on 2 October, net long holdings are at historically elevated levels slightly below the record high seen in January of 1 088 mb. Net length in Brent futures contracts has increased by almost 90 mb since 28 August, offsetting a decline of 30 mb in net long WTI contracts held. Brent prices are more exposed to bullish sentiment stoked by uncertainty regarding Iranian sanctions.

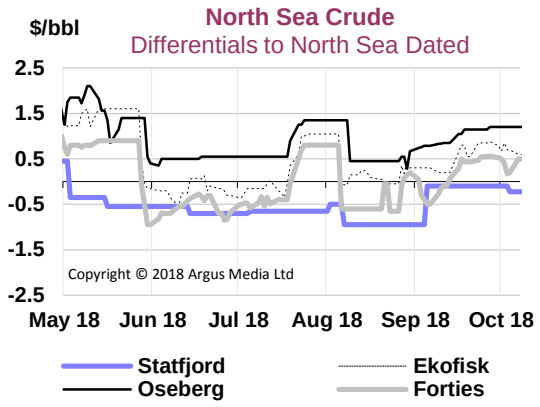
Spot crude oil prices

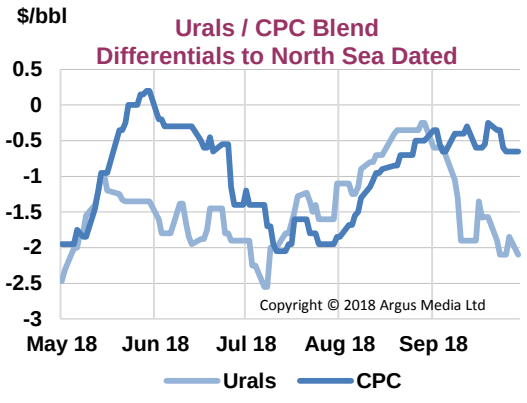
The announcement that the expansion of the Plains All American Sunrise pipeline is to be operational in November, ahead of schedule, was welcome news to capacity-constrained Permian producers. WTI Midland's differential to WTI Cushing narrowed by over $10/bbl to $7.25/bbl at the end of September. The expansion, which will only be partially complete, will eventually provide an additional 500 kb/d of export capacity from the Permian basin to Cushing. Despite this, significant export constraints are expected to endure until 3Q19. The wide discount of WTI to Brent supported exports of US crude. WTI priced in Houston gained $3.16/bbl month-on-month (m-o-m) against WTI Cushing.





Western Canada Select (WCS) prices dropped to new lows, with the price in Hardisty on average $31.63/bbl below WTI Cushing for September. In recent days, the differential has been in free fall and on 10 October reached a discount of $50/bbl, putting WCS at less than one third of the price of WTI Cushing. Canadian production continues to grow, with no new export capacity expected in the short-term. Demand for space on the four major export pipelines is 40% above capacity and alternatives, such as rail, have limited availability for now.





North Sea crudes Brent, Forties, Ekofisk and Oseberg picked up against North Sea Dated in September on increased demand from Asia Pacific. Last month, some Forties cargoes were held in floating storage in the North Sea but these volumes have now found buyers. In an indication of physical market tightness

the Brent Contract for Differences (CFD) curve flipped into shallow backwardation on 11 September. However, the release of November loading programmes showing increasing North Sea supplies has weighed on differentials in early October.

Chinese refiners stepped up their demand for Angolan crude. Differentials to North Sea Dated for key grades rose by between $0.13/bbl and $0.24/bbl m-o-m. Increased demand for Nigerian grades, in particular, Qua Iboe, Bonny Light and Forcados saw differentials improve by $0.56/bbl, $0.64/bbl and $0.50/bbl m-o-m respectively.

Spot crude oil prices and differentials

Table Unavailable

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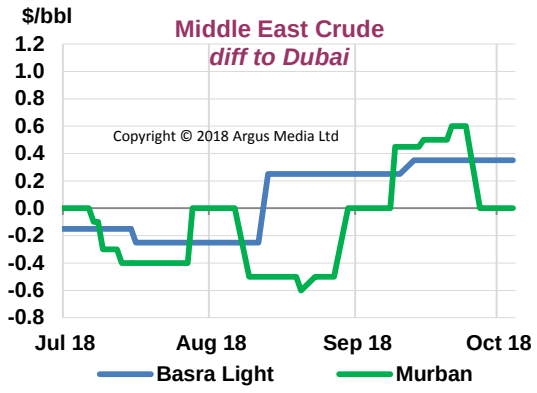
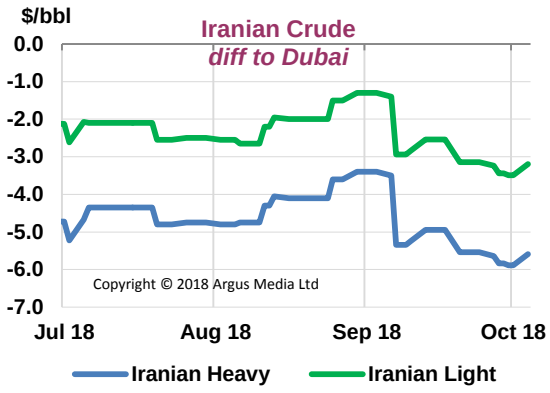
Urals prices, which had been on the rise thanks to increased demand from refiners replacing Iranian barrels, saw their rally ease. The discount to North Sea Dated narrowed to an eight-month low of $0.25/bbl on 6 September but has subsequently widened to over $2.00/bbl on weaker fuel oil margins and increased availability while Russian refineries undergo maintenance. The discount of CPC Blend to North Sea Dated hit a two-month low in early September and has subsequently remained narrow at around $0.50/bbl thanks to Asian demand. Differentials for Algeria's Saharan blend came up $0.65/bbl m-o-m and Libyan Es Sider came up $0.41/bbl m-o-m. Strong demand from independent Chinese refiners saw ESPO prices shoot up to a $6/bbl premium to North Sea Dated at the beginning of October.





All the key regional Middle East grades, with the exception of Iranian Light and Iranian Heavy, saw their differential to Dubai prices improve over the month. The prospect of reduced exports from Iran

supported the market and the sharp increase in the price of front-month Dubai relative to swaps at the end of August was maintained. Murban rose by $0.64/bb over the month, thanks to robust Asian demand for middle distillates. Omani crude moved up $2.22/bbl m-o-m due to strong Chinese demand.

Spot product prices

Product prices failed to match the gains made by crude in September. Supplies fell as refineries in the US, Europe and Asia Pacific began turnarounds but this was offset by seasonal demand weakness. German markets are experiencing tightness in gasoline, diesel and heating fuel markets due to planned and unplanned refinery outages, while persistently low Rhine water levels limit the arrival of products by barge.

Spot product prices

Table Unavailable

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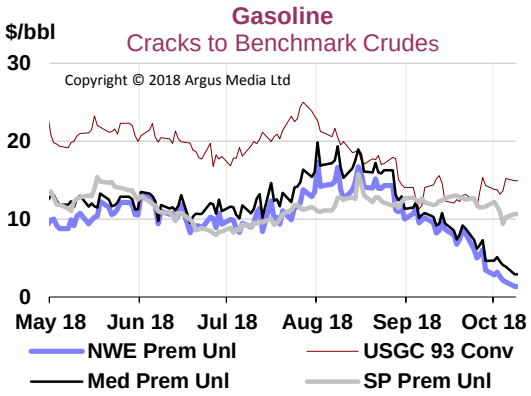
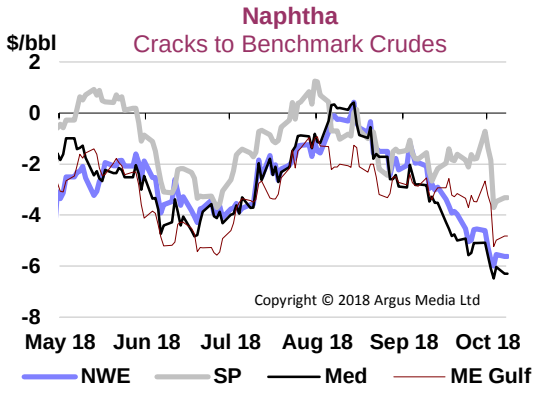
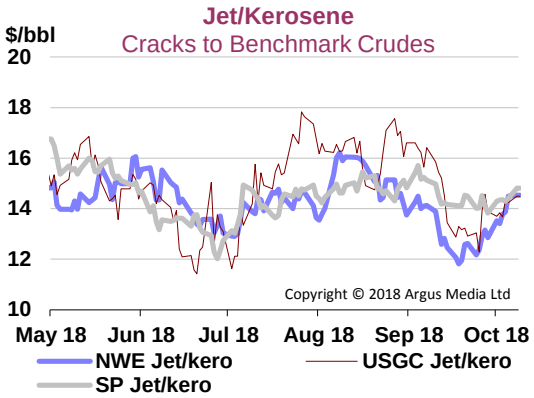
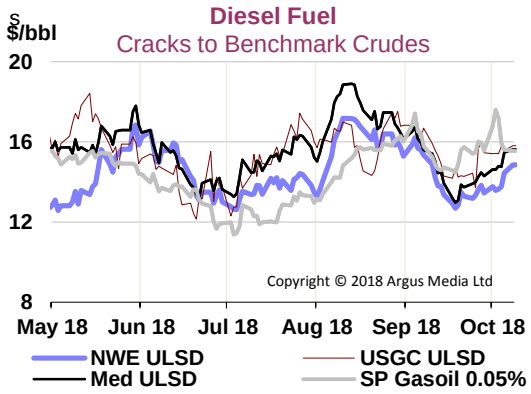
In North West Europe and Mediterranean markets, cracks for premium unleaded gasoline declined by $5.94/bbl and $7.36/bbl m-o-m, respectively. Domestic and export demand fell off as the driving season in Europe and the US ended. Furthermore, the switch to the cheaper winter grade fuel weighed on prices. Export demand for US gasoline from Latin America was not enough to offset reduced domestic demand and cracks for unleaded and super unleaded on the US Gulf Coast (USGC) fell by $6.83/bbl and $5.21/bbl m-o-m respectively. Early in the month, Asian prices ticked up when unplanned outages disrupted supplies from Oman and India. However, m-o-m cracks stayed flat as these refineries resumed operations and the market was well supplied with imports from Europe.





Seasonally weaker demand from petrochemical plants saw naphtha prices fall in the US and Europe, despite increased usage for gasoline blending. Cracks in North West Europe and the Mediterranean fell by $5.12/bbl and $3.05/bbl m-o-m against North Sea Dated and Urals respectively. Naphtha prices in Asia Pacific were supported by buying interest from the Indonesian petrochemical sector. However, regional demand is expected to come off as ethylene crackers undergo maintenance until the end of November. Cracks in Singapore were down $1.10/bbl m-o-m.

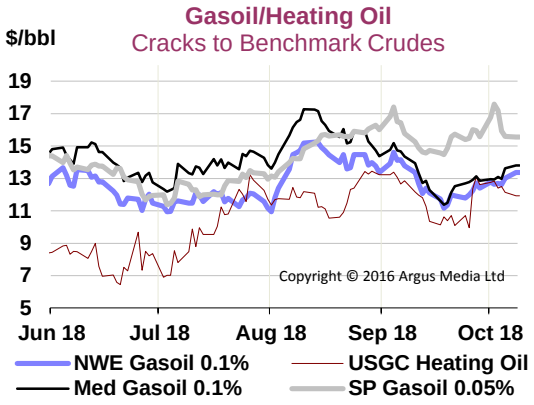


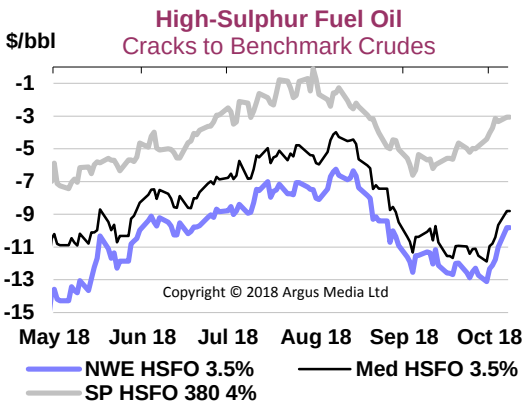


Jet fuel cracks fell in September, a seasonal decline due to the end of the northern hemisphere summer and peak flying season. Thanks to Chinese demand, Singapore cracks fell by only $0.29/bbl, as opposed to larger drops of $2.06/bbl in North West Europe and $1.91/bbl on the USGC. Asia Pacific demand for kerosene as a heating fuel is expected to pick up in coming months.

European diesel cracks were squeezed in September, declining $1.87/bbl m-o-m, on ample imports to the region. Later in the month strong demand in Asia Pacific and the US, along with US refinery maintenance, saw cracks tick up. Diesel markets have been relatively strong this year reflecting solid economic activity so far.

Gasoil delivered to Singapore was the only major product to see a m-o-m increase in cracks in September, rising by $0.41/bbl. Strong demand from India, China and Australia alongside disruptions to Japanese supplies following a typhoon, earthquake and refinery maintenance saw prices rise to a four-year high of $100.45/bbl on 2 October. Looking ahead, upcoming refinery maintenance in China and India may further tighten the market.

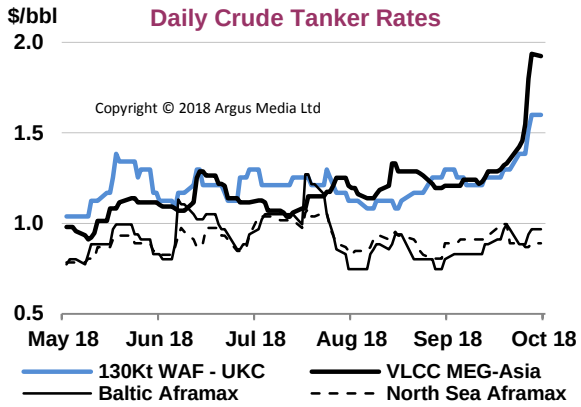


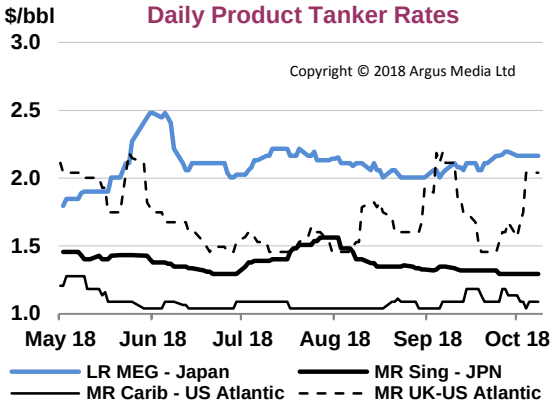


Having seen a steep drop in August, high sulphur fuel oil cracks stabilised somewhat in September. Increased Russian supplies to Europe saw cracks decline by $4.06/bbl m-o-m. In Asia Pacific the market tightened on lower imports from Europe due to refinery maintenance and the commissioning of new cokers. Later in the month, inventories in Singapore declined and this encouraged some demand for European fuel oil imports.

Freight

In early October, freight rates to transport crude between the Middle East Gulf and Asia on Very Large Crude Carriers (VLCCs) jumped up to $1.94/bbl, the highest since January 2017. Strong Asian demand and higher fuel oil costs contributed to the increase, but reduced ship availability due to weather delays in Asia also had an impact. Suezmaxes travelling between the UK Continent and West Africa also hit 20-month highs of $1.60/bbl in early October due to robust demand. Freight rates for Aframaxes in the Baltic and North Sea remain depressed. Rates to carry crude on Aframaxes in the Baltic came up by $0.17/bbl over the month but from a very low base.





In clean product freight markets, the rate for Long Range (LR) vessels moving between the Middle East Gulf and Japan nudged up by $0.19/bbl over the month due to a pass-through of higher fuel costs. Rates for Medium Range (MR) vessels travelling in the Atlantic Basin spiked up by $0.60/bbl in early September due to higher US exports to Latin America where a refinery fire in Brazil had curtailed production of transport fuels. Hurricane Florence had a negligible impact on rates.

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	25.6	25.5	25.4	25.2	25.6	25.8	25.8	25.6
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	13.9	14.4	14.7	14.3	14.3
Asia Oceania	8.1	8.1	8.5	7.7	7.8	8.3	8.1	8.5	7.6	7.7	8.2	8.0	8.4	7.5	7.6	8.2	7.9
Total OECD	46.5	47.0	46.9	47.0	47.7	48.1	47.4	47.8	47.1	47.9	48.0	47.7	47.5	47.6	48.1	48.3	47.8
NON-OECD DEMAND																	
FSU	4.6	4.5	4.3	4.5	4.7	4.6	4.5	4.5	4.6	4.9	4.6	4.7	4.5	4.7	5.0	4.8	4.7
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	0.7	0.8	0.8	0.8	0.8
China	11.6	12.0	12.4	12.9	12.3	12.7	12.6	12.7	13.0	13.2	13.5	13.1	13.2	13.5	13.7	13.9	13.6
Other Asia	12.5	13.0	13.2	13.4	13.2	13.6	13.4	13.7	13.8	13.4	14.0	13.8	14.1	14.2	13.8	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	6.5	6.4	6.3	6.5	6.6	6.5	6.5
Middle East	8.5	8.5	8.2	8.7	8.9	8.2	8.5	8.1	8.4	8.9	8.4	8.5	8.2	8.7	9.1	8.5	8.6
Africa	4.2	4.3	4.4	4.3	4.2	4.3	4.3	4.3	4.3	4.2	4.3	4.3	4.4	4.4	4.2	4.4	4.4
Total Non-OECD	48.7	49.4	49.6	51.0	50.7	50.5	50.5	50.4	51.3	51.9	52.2	51.4	51.5	52.7	53.2	53.3	52.7
Total Demand[1]	**95.3**	**96.4**	**96.5**	**98.0**	**98.3**	**98.6**	**97.9**	**98.2**	**98.5**	**99.8**	**100.2**	**99.2**	**98.9**	**100.2**	**101.3**	**101.6**	**100.5**
OECD SUPPLY																	
Americas[4]	20.0	19.5	20.0	19.8	20.3	21.2	20.3	21.7	22.2	22.6	22.7	22.3	23.1	23.4	23.6	24.0	23.5
Europe	3.5	3.5	3.7	3.5	3.4	3.4	3.5	3.6	3.4	3.4	3.5	3.4	3.5	3.3	3.3	3.4	3.4
Asia Oceania	0.5	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.5	0.5	0.5	0.5
Total OECD	23.9	23.4	24.0	23.7	24.0	25.0	24.2	25.7	25.9	26.4	26.6	26.2	27.1	27.2	27.3	27.9	27.4
NON-OECD SUPPLY																	
FSU	14.0	14.2	14.4	14.3	14.2	14.4	14.3	14.4	14.5	14.6	14.8	14.6	14.9	14.9	14.8	14.9	14.9
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	3.8	3.8	3.8	3.7	3.7	3.7	3.7
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	3.4	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	4.5	4.7	4.5	4.7	4.8	5.0	5.0	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	1.2	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	1.4	1.4	1.4	1.4	1.4
Total Non-OECD	29.4	29.1	29.2	29.0	28.9	28.9	29.0	29.0	29.0	29.1	29.3	29.1	29.5	29.5	29.5	29.7	29.5
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	2.9	2.5	2.5	2.1	2.7	3.0	2.5	2.6	2.2	2.8	3.0	2.7	2.7
Total Non-OPEC Supply	57.8	57.1	57.5	57.5	58.1	58.8	58.0	59.1	60.0	60.8	60.7	60.2	61.1	61.8	62.3	62.6	61.9
OPEC																	
Crude	32.1	33.0	32.3	32.6	33.0	32.6	32.6	32.3	32.1	32.6							
NGLs	6.6	6.8	6.9	6.9	6.9	6.9	6.9	6.9	6.9	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
Total OPEC	38.6	39.8	39.2	39.5	39.9	39.5	39.5	39.3	39.0	39.5							
Total Supply[4]	**96.5**	**96.9**	**96.7**	**97.0**	**98.0**	**98.3**	**97.5**	**98.3**	**99.0**	**100.3**							
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								
Government	0.0	0.0	0.0	-0.1	-0.1	-0.1	-0.1	0.1	-0.1								
Total	0.8	0.0	0.3	-0.2	-0.7	-1.4	-0.5	-0.4	0.0								
Floating storage/Oil in transit	0.3	0.2	0.0	-0.1	0.5	1.0	0.4	-1.0	0.3								
Miscellaneous to balance[5]	0.2	0.4	-0.1	-0.7	-0.3	0.0	-0.3	1.5	0.4								
Total Stock Ch. & Misc	**1.2**	**0.6**	**0.2**	**-1.0**	**-0.4**	**-0.4**	**-0.4**	**0.1**	**0.6**	**0.6**							
Memo items:																	
Call on OPEC crude + Stock ch.[6]	30.8	32.4	32.1	33.6	33.3	33.0	33.0	32.2	31.5	32.0	32.4	32.0	30.8	31.4	32.0	32.0	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	-	-	-	-	-	-	-	-	-	0.2	-	-	-0.1	-	-	-0.1	-
Europe	-	-	-	-	-	-	-	-	-	0.1	-	-	-	-	-	-	-
Asia Oceania	-	-	-	-	-	-	-	-	-	-0.1	-	-	-	-0.1	-0.1	-	-0.1
Total OECD	-	-	-	-	-	-	-	-	-	0.2	-	-	-0.1	-0.1	-	-0.1	-0.1
NON-OECD DEMAND																	
FSU	-	-	-	-	-	-0.1	-	-0.1	-0.1	-	-0.1	-	-	-	-	-	-
Europe	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
China	-	-	-	0.1	-	-	-	-0.1	-0.2	-0.1	-	-0.1	-0.1	-0.1	-	-0.1	-0.1
Other Asia	-	-	-	-	-	-	-	-	-	-0.1	-	-	-	-	-0.1	-	-
Americas	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Middle East	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Africa	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total Non-OECD	-	-	-	0.1	-0.1	-0.1	-	-0.1	-0.3	-0.2	-0.1	-0.2	-0.2	-0.2	-0.1	-0.2	-0.2
Total Demand	**-**	**-**	**-**	**0.1**	**-0.1**	**-0.1**	**-**	**-0.1**	**-0.3**	**-**	**-0.1**	**-0.1**	**-0.3**	**-0.2**	**-0.1**	**-0.3**	**-0.2**
OECD SUPPLY																	
Americas	-	-	-	-	-	-	-	-	-	0.4	0.1	0.1	-0.1	-	-	-	-
Europe	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Asia Oceania	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total OECD	-	-	-	-	-	-	-	-	0.1	0.4	0.1	0.1	-0.1	-	-0.1	-	-
NON-OECD SUPPLY																	
FSU	-	-	-	-	-	-	-	-	-	-	0.1	-	0.1	0.1	0.1	0.1	0.1
Europe	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
China	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.1	-
Other Asia	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Americas	-	-	-	-	-	-	-	-	-	-0.1	-	-	-	-	-	-	-
Middle East	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Africa	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total Non-OECD	-	-	-	-	-	-	-	-	-	-	0.2	-	0.2	0.1	0.2	0.2	0.2
Processing gains	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Global Biofuels	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total Non-OPEC Supply	-	-	-	-	-	-	-	-	0.1	0.4	0.2	0.2	0.1	0.2	0.1	0.2	0.1
OPEC																	
Crude	-	-	-	-	-	-	-	-	-								
NGLs	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total OPEC	-	-	-	-	-	-	-	-	-								
Total Supply	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**								
STOCK CHANGES AND MISCELLANEOUS																	
REPORTED OECD																	
Industry	-	-	-	-	-	-	-	-	-								
Government	-	-	-	-	-	-	-	-	-								
Total	-	-	-	-	-	-	-	-	-								
Floating storage/Oil in transit	-	-	-	-	-	-	-	-	-								
Miscellaneous to balance	-	-	-	-0.1	0.1	0.1	-	0.2	0.3								
Total Stock Ch. & Misc	**-**	**-**	**-**	**-0.1**	**0.1**	**0.1**	**-**	**0.2**	**0.3**								
Memo items:																	
Call on OPEC crude + Stock ch.	-	-	-	0.1	-0.1	-0.1	-	-0.2	-0.3	-0.4	-0.3	-0.3	-0.4	-0.4	-0.2	-0.4	-0.3

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

Table 2
SUMMARY OF GLOBAL OIL DEMAND

	2016	1Q17	2Q17	3Q17	4Q17	2017	1Q18	2Q18	3Q18	4Q18	2018	1Q19	2Q19	3Q19	4Q19	2019
Demand (mb/d)																
Americas	24.88	24.61	25.12	25.15	25.34	25.06	25.26	25.37	25.60	25.47	25.43	25.16	25.60	25.75	25.76	25.57
Europe	13.99	13.82	14.25	14.70	14.40	14.30	14.05	14.16	14.63	14.28	14.28	13.91	14.40	14.75	14.33	14.35
Asia Oceania	8.11	8.48	7.65	7.80	8.33	8.06	8.51	7.60	7.69	8.22	8.01	8.40	7.55	7.57	8.19	7.93
Total OECD	46.97	46.91	47.02	47.66	48.06	47.42	47.82	47.13	47.92	47.98	47.72	47.47	47.55	48.07	48.28	47.85
Asia	24.97	25.62	26.32	25.56	26.26	25.94	26.41	26.87	26.58	27.54	26.85	27.27	27.73	27.55	28.33	27.72
Middle East	8.49	8.24	8.67	8.87	8.22	8.50	8.10	8.42	8.91	8.43	8.47	8.22	8.66	9.07	8.46	8.61
Americas	6.44	6.34	6.46	6.57	6.45	6.46	6.35	6.37	6.53	6.48	6.44	6.34	6.46	6.56	6.53	6.48
FSU	4.51	4.30	4.51	4.73	4.60	4.54	4.45	4.62	4.90	4.63	4.65	4.49	4.71	4.98	4.79	4.75
Africa	4.25	4.36	4.30	4.19	4.26	4.28	4.34	4.30	4.16	4.32	4.28	4.42	4.36	4.24	4.40	4.36
Europe	0.72	0.72	0.75	0.76	0.76	0.75	0.73	0.74	0.77	0.78	0.76	0.75	0.76	0.79	0.79	0.77
Total Non-OECD	49.39	49.57	51.01	50.68	50.55	50.46	50.39	51.32	51.85	52.17	51.45	51.48	52.69	53.19	53.29	52.68
World	**96.36**	**96.48**	**98.03**	**98.34**	**98.61**	**97.88**	**98.21**	**98.45**	**99.77**	**100.15**	**99.16**	**98.95**	**100.24**	**101.26**	**101.57**	**100.52**
of which: US50	19.69	19.54	20.07	20.01	20.21	19.96	20.24	20.33	20.49	20.36	20.36	20.14	20.58	20.63	20.65	20.50
Europe 5*	8.15	8.16	8.28	8.44	8.24	8.28	8.18	8.17	8.25	8.14	8.18	8.05	8.22	8.33	8.15	8.19
China	11.99	12.44	12.88	12.33	12.65	12.58	12.72	13.02	13.16	13.50	13.10	13.17	13.49	13.71	13.88	13.57
Japan	4.01	4.30	3.58	3.63	4.06	3.89	4.27	3.43	3.57	3.92	3.80	4.15	3.37	3.42	3.86	3.70
India	4.44	4.46	4.67	4.42	4.72	4.57	4.82	4.86	4.62	4.99	4.82	5.01	5.09	4.80	5.19	5.02
Russia	3.33	3.14	3.31	3.50	3.34	3.32	3.26	3.37	3.63	3.35	3.40	3.28	3.45	3.69	3.43	3.46
Brazil	2.98	2.92	2.96	3.08	3.04	3.00	2.95	2.91	3.11	3.11	3.02	2.95	3.00	3.12	3.12	3.05
Saudi Arabia	3.30	2.93	3.41	3.62	3.13	3.27	2.93	3.18	3.53	3.26	3.23	3.01	3.41	3.65	3.24	3.33
Canada	2.47	2.37	2.36	2.52	2.52	2.45	2.32	2.34	2.51	2.47	2.41	2.34	2.33	2.50	2.47	2.41
Korea	2.61	2.62	2.49	2.57	2.65	2.58	2.63	2.55	2.51	2.66	2.59	2.64	2.55	2.54	2.69	2.61
Mexico	2.05	2.02	2.03	1.95	1.93	1.98	1.99	2.02	1.95	1.96	1.98	1.97	2.02	1.95	1.95	1.98
Iran	1.96	2.12	2.03	2.00	2.00	2.04	2.01	1.98	1.96	1.97	1.98	2.06	2.00	1.98	1.99	2.01
Total	**66.98**	**67.03**	**68.08**	**68.09**	**68.51**	**67.93**	**68.32**	**68.18**	**69.26**	**69.70**	**68.87**	**68.77**	**69.52**	**70.32**	**70.63**	**69.82**
% of World	69.5%	69.5%	69.4%	69.2%	69.5%	69.4%	69.6%	69.3%	69.4%	69.6%	69.5%	69.5%	69.4%	69.4%	69.5%	69.5%
Annual Change (% per annum)																
Americas	1.1	-0.5	2.1	-0.1	1.4	0.7	2.6	1.0	1.8	0.5	1.5	-0.4	0.9	0.6	1.1	0.6
Europe	1.2	2.0	2.7	2.2	1.8	2.2	1.7	-0.6	-0.5	-0.8	-0.1	-1.0	1.7	0.8	0.3	0.5
Asia Oceania	0.0	-1.4	-0.3	0.0	-0.2	-0.5	0.4	-0.7	-1.4	-1.2	-0.7	-1.3	-0.7	-1.6	-0.4	-1.0
Total OECD	1.0	0.1	1.9	0.6	1.3	1.0	1.9	0.2	0.6	-0.2	0.6	-0.7	0.9	0.3	0.6	0.3
Asia	4.0	3.2	3.8	4.5	4.1	3.9	3.1	2.1	4.0	4.9	3.5	3.2	3.2	3.6	2.9	3.2
Middle East	-0.4	1.6	0.4	-0.4	-1.1	0.1	-1.6	-2.8	0.4	2.5	-0.4	1.5	2.9	1.8	0.4	1.6
Americas	-4.1	-0.2	0.0	0.5	0.7	0.2	0.2	-1.3	-0.5	0.5	-0.3	-0.2	1.4	0.5	0.7	0.6
FSU	-1.3	-1.1	3.6	0.9	-1.1	0.5	3.6	2.3	3.6	0.6	2.6	0.8	2.1	1.7	3.4	2.0
Africa	1.1	1.8	-0.1	1.1	-0.4	0.6	-0.4	0.1	-0.8	1.2	0.0	1.7	1.5	2.1	1.8	1.8
Europe	4.8	1.7	2.2	4.2	4.3	3.1	2.5	-0.9	1.4	3.4	1.4	1.8	2.6	1.9	0.8	1.9
Total Non-OECD	1.4	1.9	2.3	2.4	1.9	2.2	1.7	0.6	2.3	3.2	2.0	2.2	2.7	2.6	2.1	2.4
World	**1.2**	**1.0**	**2.1**	**1.5**	**1.6**	**1.6**	**1.8**	**0.4**	**1.5**	**1.6**	**1.3**	**0.7**	**1.8**	**1.5**	**1.4**	**1.4**
Annual Change (mb/d)																
Americas	0.28	-0.11	0.51	-0.03	0.36	0.18	0.65	0.25	0.45	0.14	0.37	-0.10	0.23	0.15	0.29	0.14
Europe	0.16	0.27	0.37	0.31	0.26	0.31	0.23	-0.09	-0.08	-0.12	-0.01	-0.15	0.24	0.12	0.05	0.07
Asia Oceania	0.00	-0.12	-0.02	0.00	-0.02	-0.04	0.03	-0.05	-0.11	-0.10	-0.06	-0.11	-0.05	-0.12	-0.03	-0.08
Total OECD	0.45	0.04	0.86	0.28	0.60	0.45	0.91	0.11	0.27	-0.08	0.30	-0.36	0.42	0.15	0.30	0.13
Asia	0.95	0.79	0.97	1.09	1.03	0.97	0.79	0.55	1.02	1.29	0.91	0.86	0.86	0.97	0.79	0.87
Middle East	-0.04	0.13	0.03	-0.04	-0.09	0.01	-0.14	-0.24	0.04	0.20	-0.03	0.12	0.24	0.16	0.04	0.14
Americas	-0.28	-0.01	0.00	0.03	0.04	0.02	0.01	-0.09	-0.03	0.03	-0.02	-0.01	0.09	0.03	0.05	0.04
FSU	-0.06	-0.05	0.16	0.04	-0.05	0.02	0.16	0.10	0.17	0.03	0.12	0.04	0.10	0.08	0.16	0.09
Africa	0.05	0.08	0.00	0.05	-0.02	0.03	-0.02	0.00	-0.03	0.05	0.00	0.08	0.06	0.09	0.08	0.08
Europe	0.03	0.01	0.02	0.03	0.03	0.02	0.02	-0.01	0.01	0.03	0.01	0.01	0.02	0.01	0.01	0.01
Total Non-OECD	0.66	0.94	1.17	1.21	0.95	1.07	0.82	0.32	1.17	1.62	0.99	1.09	1.37	1.34	1.12	1.23
World	**1.11**	**0.99**	**2.03**	**1.49**	**1.55**	**1.51**	**1.73**	**0.42**	**1.43**	**1.54**	**1.28**	**0.74**	**1.79**	**1.49**	**1.42**	**1.36**
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	0.18	-0.03	0.04	-0.08	-0.02	0.04	-0.06	-0.03
Europe	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.10	0.02	0.03	-0.01	0.01	0.02	-0.02	0.00
Asia Oceania	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-0.06	-0.03	-0.02	-0.04	-0.05	-0.09	-0.04	-0.06
Total OECD	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.22	-0.05	0.04	-0.13	-0.06	-0.02	-0.12	-0.09
Asia	0.00	0.05	0.08	-0.03	-0.04	0.01	-0.09	-0.18	-0.19	-0.04	-0.12	-0.12	-0.11	-0.07	-0.10	-0.10
Middle East	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-0.01	-0.04	0.03	0.00	0.00	0.02	0.00	0.01	0.01
Americas	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.03	0.01	0.01	0.01	0.01	0.00	-0.01	0.00
FSU	0.00	-0.01	-0.02	-0.04	-0.06	-0.03	-0.06	-0.07	0.03	-0.06	-0.04	-0.05	-0.05	0.03	-0.04	-0.03
Africa	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-0.05	-0.03	-0.02	-0.03	-0.04	-0.04	-0.03	-0.04
Europe	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	0.00	0.00
Total Non-OECD	0.00	0.04	0.05	-0.08	-0.10	-0.02	-0.14	-0.26	-0.22	-0.09	-0.18	-0.19	-0.17	-0.08	-0.17	-0.15
World	**0.00**	**0.04**	**0.05**	**-0.08**	**-0.10**	**-0.02**	**-0.14**	**-0.26**	**0.00**	**-0.14**	**-0.13**	**-0.32**	**-0.23**	**-0.11**	**-0.29**	**-0.24**
Revisions to Oil Demand Growth from Last Month's Report (mb/d)																
World	0.00	0.08	0.02	-0.03	-0.15	-0.02	-0.18	-0.31	0.08	-0.04	-0.11	-0.18	0.03	-0.11	-0.16	-0.11

* France, Germany, Italy, Spain and UK

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

	2016	2017	3Q17	4Q17	1Q18	2Q18	May 18	Jun 18	Jul 18 [2]	Latest month vs. Jun 18	Latest month vs. Jul 17
Americas											
LPG and ethane	3.32	3.33	3.05	3.55	3.99	3.29	3.15	3.19	3.47	0.28	0.20
Naphtha	0.34	0.34	0.34	0.33	0.28	0.27	0.26	0.27	0.32	0.05	-0.04
Motor gasoline	11.09	11.11	11.40	11.04	10.73	11.28	11.34	11.63	11.44	-0.20	0.02
Jet and kerosene	1.90	1.98	2.03	2.03	1.95	2.04	2.02	2.18	2.11	-0.06	0.07
Gasoil/diesel oil	5.13	5.14	5.07	5.28	5.39	5.38	5.57	5.25	5.15	-0.10	0.33
Residual fuel oil	0.63	0.68	0.64	0.67	0.63	0.68	0.70	0.60	0.69	0.10	0.06
Other products	2.47	2.47	2.61	2.44	2.31	2.42	2.44	2.70	2.64	-0.05	-0.04
Total	**24.87**	**25.06**	**25.15**	**25.34**	**25.26**	**25.37**	**25.48**	**25.82**	**25.83**	**0.02**	**0.60**
Europe											
LPG and ethane	1.16	1.12	1.08	1.11	1.24	1.11	1.10	1.09	1.15	0.05	0.02
Naphtha	1.10	1.18	1.17	1.22	1.16	1.02	1.01	1.01	1.02	0.01	-0.13
Motor gasoline	1.88	1.89	1.98	1.85	1.82	1.99	1.98	2.06	2.03	-0.03	0.05
Jet and kerosene	1.37	1.46	1.65	1.41	1.36	1.54	1.55	1.62	1.69	0.07	0.03
Gasoil/diesel oil	6.31	6.48	6.54	6.64	6.45	6.32	6.21	6.38	6.48	0.10	0.07
Residual fuel oil	0.88	0.89	0.89	0.93	0.89	0.88	0.87	0.87	0.94	0.08	0.04
Other products	1.29	1.28	1.38	1.25	1.14	1.29	1.26	1.38	1.46	0.08	0.08
Total	**13.99**	**14.30**	**14.70**	**14.40**	**14.05**	**14.16**	**13.97**	**14.41**	**14.77**	**0.36**	**0.16**
Asia Oceania											
LPG and ethane	0.78	0.75	0.69	0.73	0.82	0.72	0.73	0.69	0.67	-0.02	-0.02
Naphtha	1.98	2.04	2.01	2.13	2.04	1.92	1.97	1.77	1.93	0.16	-0.04
Motor gasoline	1.55	1.54	1.62	1.56	1.51	1.51	1.51	1.52	1.59	0.07	-0.03
Jet and kerosene	0.90	0.91	0.71	1.05	1.18	0.74	0.76	0.69	0.68	0.00	-0.01
Gasoil/diesel oil	1.82	1.89	1.87	1.95	1.95	1.90	1.87	1.93	1.88	-0.05	0.00
Residual fuel oil	0.65	0.58	0.54	0.58	0.66	0.49	0.50	0.45	0.53	0.07	-0.03
Other products	0.42	0.35	0.36	0.32	0.35	0.32	0.31	0.35	0.34	-0.01	0.02
Total	**8.11**	**8.06**	**7.80**	**8.33**	**8.51**	**7.60**	**7.65**	**7.40**	**7.63**	**0.22**	**-0.11**
OECD											
LPG and ethane	5.25	5.20	4.83	5.39	6.05	5.12	4.98	4.98	5.28	0.31	0.19
Naphtha	3.43	3.56	3.52	3.67	3.48	3.21	3.24	3.06	3.28	0.22	-0.21
Motor gasoline	14.53	14.55	15.01	14.46	14.05	14.79	14.83	15.21	15.06	-0.16	0.04
Jet and kerosene	4.17	4.35	4.40	4.48	4.49	4.33	4.33	4.48	4.49	0.01	0.09
Gasoil/diesel oil	13.26	13.51	13.48	13.87	13.78	13.60	13.64	13.56	13.51	-0.05	0.40
Residual fuel oil	2.16	2.15	2.07	2.18	2.18	2.05	2.07	1.91	2.16	0.25	0.07
Other products	4.18	4.10	4.35	4.01	3.79	4.04	4.01	4.43	4.45	0.02	0.05
Total	**46.97**	**47.42**	**47.66**	**48.06**	**47.82**	**47.13**	**47.10**	**47.63**	**48.23**	**0.60**	**0.64**

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	3Q17	4Q17	1Q18	2Q18	May 18	Jun 18	Jul 18 [2]	Latest month vs. Jun 18	Latest month vs. Jul 17
United States[3]											
LPG and ethane	2.47	2.54	2.31	2.73	3.12	2.58	2.44	2.54	2.67	0.13	0.15
Naphtha	0.22	0.23	0.21	0.22	0.21	0.20	0.20	0.21	0.23	0.02	0.01
Motor gasoline	9.32	9.33	9.58	9.24	9.01	9.51	9.55	9.80	9.64	-0.16	0.04
Jet and kerosene	1.62	1.69	1.71	1.73	1.65	1.73	1.72	1.86	1.77	-0.08	0.04
Gasoil/diesel oil	3.88	3.93	3.85	4.05	4.18	4.13	4.27	3.95	3.96	0.00	0.32
Residual fuel oil	0.33	0.34	0.31	0.34	0.28	0.32	0.31	0.25	0.34	0.09	0.05
Other products	1.86	1.90	2.03	1.89	1.78	1.86	1.87	2.10	2.02	-0.08	-0.10
Total	**19.69**	**19.96**	**20.01**	**20.21**	**20.24**	**20.33**	**20.36**	**20.71**	**20.62**	**-0.08**	**0.50**
Japan											
LPG and ethane	0.42	0.39	0.34	0.39	0.46	0.35	0.36	0.32	0.32	0.01	-0.02
Naphtha	0.75	0.77	0.73	0.79	0.75	0.66	0.69	0.54	0.67	0.14	-0.02
Motor gasoline	0.90	0.88	0.94	0.89	0.84	0.85	0.85	0.86	0.93	0.07	-0.01
Jet and kerosene	0.51	0.51	0.34	0.62	0.73	0.37	0.38	0.32	0.31	-0.01	-0.01
Diesel	0.44	0.43	0.43	0.44	0.43	0.44	0.42	0.46	0.45	-0.01	0.01
Other gasoil	0.35	0.35	0.31	0.37	0.40	0.29	0.27	0.29	0.28	-0.01	-0.02
Residual fuel oil	0.33	0.28	0.27	0.28	0.34	0.23	0.24	0.21	0.28	0.07	0.00
Other products	0.32	0.28	0.28	0.28	0.31	0.24	0.22	0.25	0.27	0.02	-0.01
Total	**4.01**	**3.89**	**3.63**	**4.06**	**4.27**	**3.43**	**3.44**	**3.24**	**3.50**	**0.27**	**-0.08**
Germany											
LPG and ethane	0.10	0.13	0.13	0.12	0.11	0.12	0.12	0.13	0.12	-0.02	-0.02
Naphtha	0.37	0.38	0.37	0.38	0.32	0.30	0.31	0.27	0.27	0.00	-0.11
Motor gasoline	0.42	0.43	0.44	0.42	0.45	0.45	0.45	0.46	0.44	-0.02	0.01
Jet and kerosene	0.20	0.22	0.24	0.21	0.19	0.23	0.23	0.25	0.25	-0.01	0.01
Diesel	0.76	0.76	0.78	0.76	0.70	0.74	0.72	0.74	0.74	-0.01	-0.03
Other gasoil	0.36	0.37	0.35	0.36	0.41	0.26	0.25	0.22	0.25	0.03	-0.10
Residual fuel oil	0.09	0.08	0.07	0.10	0.09	0.08	0.07	0.07	0.07	-0.01	-0.01
Other products	0.09	0.09	0.11	0.09	0.07	0.09	0.07	0.12	0.11	0.00	0.00
Total	**2.38**	**2.46**	**2.49**	**2.43**	**2.33**	**2.27**	**2.23**	**2.27**	**2.25**	**-0.03**	**-0.25**
Italy											
LPG and ethane	0.10	0.10	0.09	0.11	0.12	0.09	0.09	0.08	0.09	0.01	0.00
Naphtha	0.08	0.09	0.10	0.09	0.09	0.06	0.06	0.05	0.06	0.01	-0.03
Motor gasoline	0.17	0.16	0.17	0.15	0.15	0.17	0.16	0.18	0.18	0.00	0.01
Jet and kerosene	0.09	0.11	0.13	0.09	0.09	0.11	0.12	0.12	0.14	0.02	0.01
Diesel	0.47	0.47	0.46	0.48	0.50	0.50	0.50	0.52	0.52	0.00	0.04
Other gasoil	0.08	0.08	0.08	0.09	0.07	0.08	0.08	0.09	0.09	0.00	0.01
Residual fuel oil	0.08	0.08	0.09	0.07	0.08	0.08	0.08	0.09	0.08	-0.01	-0.01
Other products	0.16	0.15	0.16	0.16	0.15	0.17	0.18	0.18	0.19	0.01	0.02
Total	**1.24**	**1.24**	**1.27**	**1.25**	**1.25**	**1.27**	**1.26**	**1.29**	**1.34**	**0.05**	**0.04**
France											
LPG and ethane	0.12	0.11	0.10	0.11	0.14	0.10	0.10	0.09	0.10	0.00	0.00
Naphtha	0.11	0.11	0.11	0.08	0.12	0.14	0.13	0.14	0.15	0.01	0.03
Motor gasoline	0.17	0.18	0.20	0.18	0.17	0.20	0.20	0.20	0.21	0.01	0.02
Jet and kerosene	0.15	0.16	0.18	0.15	0.15	0.17	0.17	0.17	0.19	0.02	0.00
Diesel	0.70	0.72	0.73	0.72	0.70	0.71	0.70	0.73	0.73	0.00	0.01
Other gasoil	0.25	0.25	0.25	0.26	0.27	0.19	0.18	0.19	0.21	0.03	-0.01
Residual fuel oil	0.04	0.05	0.05	0.05	0.06	0.05	0.05	0.04	0.05	0.01	0.00
Other products	0.12	0.12	0.13	0.11	0.10	0.13	0.12	0.16	0.15	-0.01	0.01
Total	**1.65**	**1.71**	**1.76**	**1.66**	**1.71**	**1.69**	**1.66**	**1.71**	**1.79**	**0.07**	**0.06**
United Kingdom											
LPG and ethane	0.15	0.14	0.13	0.13	0.14	0.14	0.13	0.14	0.12	-0.02	0.00
Naphtha	0.03	0.03	0.03	0.03	0.03	0.02	0.03	0.02	0.02	0.00	-0.01
Motor gasoline	0.29	0.29	0.29	0.28	0.27	0.29	0.28	0.31	0.28	-0.03	0.00
Jet and kerosene	0.32	0.32	0.33	0.33	0.34	0.33	0.32	0.32	0.32	0.00	-0.01
Diesel	0.52	0.52	0.52	0.54	0.52	0.53	0.50	0.56	0.53	-0.03	0.00
Other gasoil	0.13	0.14	0.15	0.14	0.13	0.15	0.14	0.15	0.16	0.01	0.02
Residual fuel oil	0.03	0.03	0.03	0.03	0.03	0.02	0.02	0.03	0.03	0.00	0.00
Other products	0.12	0.12	0.13	0.12	0.11	0.12	0.12	0.12	0.12	0.00	-0.01
Total	**1.58**	**1.58**	**1.61**	**1.60**	**1.57**	**1.62**	**1.56**	**1.66**	**1.58**	**-0.08**	**-0.02**
Canada											
LPG and ethane	0.41	0.39	0.35	0.43	0.42	0.30	0.30	0.24	0.38	0.14	0.03
Naphtha	0.10	0.10	0.11	0.10	0.06	0.05	0.05	0.05	0.06	0.01	-0.05
Motor gasoline	0.84	0.85	0.89	0.84	0.78	0.83	0.84	0.84	0.86	0.02	-0.03
Jet and kerosene	0.14	0.15	0.17	0.15	0.14	0.16	0.16	0.17	0.19	0.02	0.03
Diesel	0.30	0.29	0.29	0.29	0.26	0.27	0.26	0.27	0.25	-0.02	-0.03
Other gasoil	0.28	0.27	0.29	0.30	0.28	0.29	0.33	0.31	0.33	0.02	0.06
Residual fuel oil	0.05	0.06	0.05	0.05	0.06	0.09	0.09	0.10	0.08	-0.02	0.03
Other products	0.36	0.35	0.37	0.36	0.32	0.36	0.38	0.39	0.40	0.01	0.04
Total	**2.47**	**2.45**	**2.52**	**2.52**	**2.32**	**2.34**	**2.41**	**2.37**	**2.56**	**0.19**	**0.07**

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	2Q18	3Q18	4Q18	1Q19	2Q19	Jul 18	Aug 18	Sep 18
OPEC											
Crude Oil											
Saudi Arabia	9.96			10.14	10.43				10.35	10.42	10.52
Iran	3.81			3.84	3.62				3.78	3.63	3.45
Iraq	4.47			4.47	4.62				4.56	4.65	4.65
UAE	2.93			2.88	3.00				2.98	2.98	3.05
Kuwait	2.71			2.71	2.80				2.80	2.81	2.79
Neutral Zone	0.00			0.00	0.00				0.00	0.00	0.00
Qatar	0.61			0.61	0.61				0.62	0.61	0.59
Angola	1.64			1.49	1.48				1.47	1.47	1.50
Nigeria	1.53			1.51	1.63				1.53	1.66	1.71
Libya	0.83			0.89	0.90				0.67	0.98	1.06
Algeria	1.05			1.03	1.06				1.06	1.06	1.07
Congo	0.26			0.32	0.32				0.31	0.32	0.32
Gabon	0.20			0.19	0.19				0.18	0.20	0.19
Equatorial Guinea	0.13			0.12	0.12				0.12	0.11	0.12
Ecuador	0.53			0.53	0.53				0.53	0.53	0.53
Venezuela	1.97			1.36	1.25				1.27	1.25	1.23
Total Crude Oil	32.62			32.09	32.56				32.23	32.68	32.78
Total NGLs[1]	6.91	6.96	7.03	6.94	6.98	7.00	7.03	7.03	6.98	6.98	6.98
Total OPEC[2]	**39.52**			**39.02**	**39.54**				**39.21**	**39.66**	**39.76**
NON-OPEC[2,3]											
OECD											
Americas	20.32	22.31	23.55	22.16	22.63	22.70	23.10	23.43	22.71	22.77	22.39
United States	13.27	15.12	16.31	15.07	15.47	15.52	15.78	16.31	15.57	15.41	15.44
Mexico	2.23	2.09	1.98	2.12	2.06	2.02	2.00	1.99	2.09	2.06	2.04
Canada	4.82	5.09	5.25	4.96	5.08	5.14	5.31	5.12	5.04	5.29	4.90
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	3.44	3.38	3.37	3.38	3.45	3.52	3.34	3.48	3.34	3.32
UK	1.01	1.06	1.08	1.04	1.02	1.08	1.11	1.11	1.03	0.99	1.04
Norway	1.97	1.86	1.76	1.79	1.84	1.84	1.87	1.69	1.91	1.87	1.75
Others	0.51	0.53	0.54	0.54	0.52	0.53	0.54	0.54	0.53	0.48	0.53
Asia Oceania	0.39	0.40	0.46	0.39	0.40	0.42	0.44	0.45	0.41	0.40	0.41
Australia	0.31	0.33	0.39	0.31	0.33	0.35	0.37	0.38	0.33	0.33	0.33
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**	**26.15**	**27.39**	**25.92**	**26.41**	**26.57**	**27.06**	**27.22**	**26.60**	**26.51**	**26.11**
NON-OECD											
Former USSR	14.34	14.57	14.87	14.47	14.62	14.77	14.88	14.88	14.67	14.48	14.72
Russia	11.36	11.52	11.77	11.38	11.64	11.72	11.72	11.75	11.60	11.59	11.74
Others	2.98	3.05	3.10	3.09	2.98	3.04	3.16	3.13	3.07	2.88	2.98
Asia[2]	7.34	7.17	6.98	7.20	7.16	7.09	7.04	7.00	7.14	7.19	7.15
China	3.87	3.82	3.74	3.86	3.82	3.79	3.76	3.75	3.80	3.83	3.82
Malaysia	0.72	0.73	0.73	0.72	0.74	0.74	0.73	0.73	0.74	0.74	0.74
India	0.86	0.84	0.80	0.85	0.83	0.82	0.81	0.80	0.83	0.84	0.82
Indonesia	0.84	0.80	0.77	0.81	0.80	0.79	0.78	0.78	0.80	0.80	0.80
Others	1.05	0.98	0.94	0.97	0.97	0.96	0.95	0.94	0.97	0.98	0.97
Europe	0.13	0.12	0.11	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12
Americas[2]	4.54	4.54	4.88	4.53	4.48	4.66	4.73	4.83	4.48	4.42	4.53
Brazil	2.74	2.75	3.12	2.72	2.69	2.88	2.96	3.06	2.69	2.64	2.75
Argentina	0.57	0.58	0.58	0.58	0.58	0.58	0.58	0.58	0.57	0.58	0.58
Colombia	0.86	0.86	0.84	0.87	0.87	0.86	0.85	0.85	0.87	0.87	0.86
Others	0.37	0.35	0.34	0.37	0.34	0.35	0.35	0.34	0.34	0.33	0.34
Middle East[2,4]	1.25	1.25	1.25	1.26	1.27	1.27	1.26	1.26	1.27	1.27	1.27
Oman	0.98	0.98	0.97	0.98	0.98	0.98	0.97	0.97	0.98	0.98	0.98
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	0.22	0.22	0.22	0.22	0.22	0.22	0.22	0.22	0.22
Africa	1.41	1.45	1.43	1.47	1.45	1.44	1.45	1.44	1.43	1.46	1.46
Egypt	0.64	0.64	0.61	0.65	0.64	0.63	0.62	0.61	0.64	0.64	0.64
Others	0.77	0.81	0.83	0.81	0.81	0.81	0.83	0.83	0.78	0.82	0.83
Total Non-OECD	**28.99**	**29.11**	**29.55**	**29.05**	**29.10**	**29.35**	**29.48**	**29.52**	**29.12**	**28.95**	**29.25**
Processing gains[5]	2.29	2.32	2.35	2.32	2.32	2.32	2.35	2.35	2.32	2.32	2.32
Global Biofuels	2.47	2.56	2.66	2.72	2.95	2.47	2.19	2.76	3.10	2.90	2.86
TOTAL NON-OPEC	**57.96**	**60.15**	**61.94**	**60.00**	**60.79**	**60.71**	**61.07**	**61.85**	**61.13**	**60.68**	**60.54**
TOTAL SUPPLY	**97.48**			**99.03**	**100.33**				**100.34**	**100.34**	**100.30**

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			
	Apr2018	May2018	Jun2018	Jul2018	Aug2018*	Aug2015	Aug2016	Aug2017	3Q2017	4Q2017	1Q2018	2Q2018
OECD Americas												
Crude	585.3	592.7	572.6	564.5	555.0	582.6	642.0	618.4	-0.35	-0.48	0.04	-0.14
Motor Gasoline	271.5	270.9	266.9	264.8	268.1	249.6	262.6	255.2	-0.19	0.17	0.06	-0.07
Middle Distillate	195.2	185.8	191.5	199.3	210.8	228.4	234.7	216.5	-0.15	0.09	-0.15	-0.16
Residual Fuel Oil	38.7	37.6	35.3	34.7	34.9	45.1	46.8	38.5	0.01	-0.06	0.06	-0.06
Total Products[3]	696.9	698.7	708.7	723.3	753.7	761.4	801.3	754.8	-0.08	-0.10	-0.35	0.06
Total[4]	1461.6	1476.8	1471.1	1479.6	1498.7	1535.0	1638.1	1575.2	-0.27	-0.79	-0.34	0.03
OECD Europe												
Crude	352.5	360.3	354.7	353.7	339.6	343.2	358.7	342.6	-0.28	-0.08	0.16	0.12
Motor Gasoline	93.8	85.3	84.1	83.4	83.1	85.3	92.4	89.5	-0.06	0.13	-0.03	-0.14
Middle Distillate	262.9	260.3	257.4	265.3	272.1	300.0	335.8	310.4	-0.04	-0.24	-0.03	-0.12
Residual Fuel Oil	61.4	62.2	60.8	60.7	60.1	71.6	73.4	61.0	-0.07	0.00	0.03	-0.01
Total Products[3]	534.1	518.4	520.9	529.6	535.4	554.9	600.9	575.3	-0.09	-0.13	0.03	-0.27
Total[4]	970.4	961.8	958.0	964.8	953.2	966.4	1029.9	989.0	-0.37	-0.24	0.25	-0.13
OECD Asia Oceania												
Crude	163.2	162.7	161.8	158.4	161.3	204.7	187.5	195.1	0.09	-0.10	-0.31	0.01
Motor Gasoline	24.4	26.4	24.2	24.7	24.4	23.6	24.3	24.9	-0.02	0.00	0.01	0.00
Middle Distillate	65.1	64.0	65.3	71.6	73.7	70.2	75.7	69.7	0.03	-0.04	-0.01	0.04
Residual Fuel Oil	19.0	19.7	21.3	20.2	19.6	21.2	19.8	20.0	-0.02	0.00	-0.01	0.03
Total Products[3]	164.9	164.8	164.9	172.0	174.6	178.3	192.5	182.2	0.03	-0.08	-0.04	0.04
Total[4]	388.4	389.8	388.3	393.7	401.9	449.1	442.1	442.5	0.10	-0.23	-0.38	0.11
Total OECD												
Crude	1101.1	1115.7	1089.1	1076.6	1055.9	1130.5	1188.2	1156.1	-0.54	-0.66	-0.11	-0.01
Motor Gasoline	389.7	382.6	375.1	372.9	375.6	358.6	379.3	369.6	-0.27	0.30	0.05	-0.20
Middle Distillate	523.2	510.1	514.2	536.3	556.5	598.6	646.2	596.6	-0.16	-0.19	-0.19	-0.24
Residual Fuel Oil	119.1	119.5	117.4	115.5	114.6	137.9	140.0	119.5	-0.08	-0.05	0.09	-0.04
Total Products[3]	1395.9	1381.9	1394.6	1424.9	1463.7	1494.5	1594.7	1512.3	-0.15	-0.31	-0.36	-0.18
Total[4]	2820.3	2828.4	2817.3	2838.2	2853.8	2950.5	3110.1	3006.7	-0.54	-1.26	-0.46	0.01

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			
	Apr2018	May2018	Jun2018	Jul2018	Aug2018*	Aug2015	Aug2016	Aug2017	3Q2017	4Q2017	1Q2018	2Q2018
OECD Americas												
Crude	664.0	660.2	660.0	660.0	660.0	695.1	695.1	678.8	-0.06	-0.12	0.03	-0.06
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	208.7	209.3	208.6	208.1	207.7	207.1	205.9	208.1	0.00	-0.02	0.02	0.01
Products	272.8	272.0	273.5	274.5	273.7	257.0	269.6	267.8	-0.06	0.04	0.04	-0.01
OECD Asia Oceania												
Crude	383.4	383.4	383.4	383.3	383.3	383.3	385.4	385.0	0.00	-0.01	-0.01	0.00
Products	38.7	38.7	38.7	38.7	38.7	33.7	35.9	38.0	0.00	0.00	0.00	0.00
Total OECD												
Crude	1256.1	1252.9	1252.0	1251.4	1251.0	1285.5	1286.4	1271.9	-0.06	-0.15	0.04	-0.05
Products	313.5	312.7	314.2	315.2	314.5	292.6	307.5	307.8	-0.05	0.04	0.04	-0.01
Total[4]	1573.3	1569.1	1569.6	1569.8	1568.6	1582.2	1596.2	1583.2	-0.12	-0.11	0.08	-0.06

* 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 June 2017		End September 2017		End December 2017		End March 2018		End June 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	182.7	72	185.7	74	189.2	81	191.9	82	190.3	-
Chile	11.2	31	12.5	35	11.5	31	10.8	29	12.3	-
Mexico	49.3	25	46.5	24	43.8	22	47.3	23	39.1	-
United States[4]	2011.9	101	1979.8	98	1896.6	94	1863.8	92	1869.2	-
Total[4]	2277.2	91	2246.6	89	2163.2	86	2135.9	84	2133.1	83
OECD Asia Oceania										
Australia	35.4	30	33.7	28	34.2	29	40.3	33	42.4	-
Israel	-	-	-	-	-	-	-	-	-	-
Japan	566.3	156	571.3	141	562.8	132	538.6	157	549.4	-
Korea	236.4	92	243.5	92	230.6	88	213.0	84	209.6	-
New Zealand	9.0	57	8.1	46	7.4	41	8.0	50	8.9	-
Total	847.1	109	856.6	103	835.1	98	800.0	105	810.3	105
OECD Europe[5]										
Austria	21.8	76	22.1	83	21.4	84	23.0	83	21.2	-
Belgium	46.6	73	44.1	66	41.4	59	46.2	75	43.8	-
Czech Republic	21.4	94	21.4	98	21.5	108	22.7	104	21.4	-
Denmark	27.3	172	23.6	146	23.4	152	22.1	137	22.8	-
Estonia	2.7	100	2.2	82	3.0	113	2.5	81	2.6	-
Finland	43.4	194	44.7	213	41.1	186	41.0	190	40.8	-
France	165.4	94	165.2	99	165.7	97	166.0	98	168.5	-
Germany	276.7	111	273.9	113	278.8	119	279.9	123	278.2	-
Greece	32.4	99	32.3	108	32.4	116	33.3	115	32.1	-
Hungary	25.2	148	26.2	150	25.4	152	26.1	147	25.2	-
Ireland	12.1	79	10.1	63	11.0	68	11.4	73	10.0	-
Italy	133.7	105	127.7	102	125.1	100	125.8	99	125.4	-
Latvia	3.3	67	1.5	36	2.5	67	3.1	72	3.6	-
Luxembourg	0.7	12	0.6	11	0.6	10	0.6	9	0.4	-
Netherlands	156.1	163	149.7	163	142.5	154	147.8	159	142.4	-
Norway	22.0	109	22.0	89	23.3	92	27.2	126	26.4	-
Poland	69.5	102	69.2	102	71.8	113	75.0	111	75.7	-
Portugal	24.0	92	24.1	98	22.9	99	24.8	106	23.8	-
Slovak Republic	13.0	145	12.1	126	11.4	146	12.1	132	11.6	-
Slovenia	5.1	92	4.7	88	5.2	99	5.1	92	4.9	-
Spain	128.7	98	127.2	98	119.5	91	124.7	94	117.9	-
Sweden	53.2	160	42.3	131	35.6	127	38.7	115	37.7	-
Switzerland	34.5	161	35.4	148	33.9	159	33.1	158	33.6	-
Turkey	84.0	75	83.9	80	83.2	90	84.1	87	90.1	-
United Kingdom	80.7	50	77.5	48	80.1	51	79.0	49	83.4	-
Total	1483.4	101	1443.9	100	1422.6	101	1455.1	103	1443.5	99
Total OECD	**4607.6**	**97**	**4547.0**	**95**	**4420.8**	**92**	**4391.1**	**93**	**4386.9**	**92**
DAYS OF IEA Net Imports[6]	**-**	**196**	**-**	**192**	**-**	**187**	**-**	**186**	**-**	**190**

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 June 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]		
2Q2015	4467	1587	2880	95	34	61
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	4387	1570	2817	92	33	59

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 2Q2018 (when latest forecasts are used).

Table 6
IEA MEMBER COUNTRY DESTINATIONS OF SELECTED CRUDE STREAMS[1]
(million barrels per day)

	2015	2016	2017	3Q17	4Q17	1Q18	2Q18	May 18	Jun 18	Jul 18	Year Earlier Jul 17	Year Earlier change
Saudi Light & Extra Light												
Americas	0.63	0.69	0.59	0.44	0.47	0.54	0.79	0.66	0.95	0.63	0.57	0.06
Europe	0.78	0.79	0.69	0.64	0.68	0.58	0.70	0.73	0.80	0.75	0.70	0.05
Asia Oceania	1.25	1.40	1.56	1.56	1.53	1.50	1.42	1.35	1.40	1.33	1.66	-0.33
Saudi Medium												
Americas	0.37	0.44	0.33	0.28	0.27	0.20	0.28	0.29	0.26	0.27	0.31	-0.04
Europe	0.03	0.01	0.01	0.01	0.02	0.02	0.01	0.02	-	0.01	-	-
Asia Oceania	0.44	0.41	0.37	0.41	0.41	0.40	0.42	0.44	0.42	0.35	0.37	-0.02
Canada Heavy												
Americas	1.90	2.04	2.23	2.21	2.17	2.33	2.48	2.40	2.61	2.40	2.15	0.25
Europe	0.01	0.01	0.02	0.03	0.04	0.03	0.04	0.02	0.02	0.04	0.04	0.00
Asia Oceania	-	-	-	-	-	0.00	0.00	0.01	-	-	-	-
Iraqi Basrah Light[2]												
Americas	0.17	0.42	0.63	0.55	0.75	0.66	0.63	0.61	0.39	0.59	0.63	-0.04
Europe	0.72	0.81	0.76	0.76	0.70	0.65	0.61	0.63	0.67	0.76	0.73	0.03
Asia Oceania	0.41	0.46	0.40	0.41	0.39	0.42	0.48	0.53	0.53	0.46	0.52	-0.07
Kuwait Blend												
Americas	0.13	0.14	0.11	0.04	0.03	0.03	0.04	-	0.11	-	0.13	-
Europe	0.13	0.19	0.20	0.25	0.14	0.13	0.08	0.07	0.10	0.10	0.27	-0.18
Asia Oceania	0.65	0.66	0.68	0.67	0.67	0.68	0.66	0.62	0.58	0.64	0.67	-0.03
Iranian Light												
Americas	-	-	-	-	-	-	-	-	-	-	-	-
Europe	0.09	0.21	0.27	0.25	0.20	0.24	0.26	0.32	0.26	0.17	0.22	-0.05
Asia Oceania	0.01	0.01	0.01	0.02	0.01	0.02	0.01	0.01	0.01	0.01	0.01	-0.01
Iranian Heavy[3]												
Americas	-	-	-	-	-	-	-	-	-	-	-	-
Europe	0.02	0.21	0.52	0.59	0.54	0.42	0.44	0.43	0.39	0.49	0.68	-0.19
Asia Oceania	0.27	0.52	0.57	0.57	0.54	0.49	0.36	0.40	0.32	0.38	0.52	-0.15
BFOE												
Americas	0.01	0.02	0.02	0.02	0.01	-	0.00	-	-	0.00	0.02	-0.02
Europe	0.49	0.44	0.45	0.49	0.52	0.41	0.25	0.21	0.33	0.43	0.49	-0.05
Asia Oceania	0.06	0.05	0.10	0.09	0.14	0.09	0.09	0.20	0.07	0.06	0.10	-0.04
Kazakhstan												
Americas	0.00	0.01	-	-	-	-	-	-	-	-	-	-
Europe	0.64	0.70	0.75	0.74	0.72	0.84	0.73	0.68	0.68	0.80	0.69	0.11
Asia Oceania	0.06	0.03	0.10	0.15	0.13	0.13	0.19	0.24	0.18	0.28	0.07	0.21
Venezuelan 22 API and heavier												
Americas	0.67	0.63	0.48	0.41	0.39	0.40	0.47	0.47	0.46	0.62	0.42	0.21
Europe	0.09	0.05	0.04	0.05	0.03	0.02	0.02	0.01	0.03	0.03	0.01	0.01
Asia Oceania	-	-	-	-	-	-	-	-	-	-	-	-
Mexican Maya												
Americas	0.50	0.53	0.58	0.50	0.67	0.64	0.63	0.54	0.81	0.71	0.61	0.10
Europe	0.15	0.17	0.20	0.17	0.26	0.27	0.22	0.28	0.14	0.21	0.20	0.02
Asia Oceania	0.01	0.05	0.07	0.07	0.10	0.06	0.10	0.10	0.09	0.15	0.06	0.08
Russian Urals												
Americas	-	-	0.01	0.02	0.01	-	-	-	-	-	-	-
Europe	1.61	1.72	1.64	1.68	1.67	1.38	1.46	1.53	1.36	1.38	1.73	-0.34
Asia Oceania	-	-	0.01	0.02	-	-	0.01	-	-	-	0.03	-
Cabinda and Other Angola												
North America	0.11	0.16	0.07	0.17	0.07	-	0.10	-	0.15	0.16	0.16	0.00
Europe	0.42	0.27	0.11	0.17	0.10	0.14	0.11	0.10	0.06	0.17	0.16	0.01
Pacific	0.02	0.01	0.01	0.03	-	-	0.00	-	0.01	-	0.03	-
Nigerian Light[4]												
Americas	0.02	0.07	0.04	0.05	0.06	0.03	0.01	0.03	-	-	0.13	-
Europe	0.57	0.39	0.39	0.38	0.38	0.48	0.49	0.50	0.38	0.44	0.38	0.06
Asia Oceania	-	0.01	0.02	0.03	0.01	0.02	0.03	0.05	0.02	0.03	0.03	0.00
Libya Light and Medium												
Americas	-	-	0.02	0.03	0.03	-	-	-	-	-	0.10	-
Europe	0.22	0.20	0.54	0.67	0.70	0.65	0.64	0.58	0.62	0.37	0.60	-0.23
Asia Oceania	0.01	0.02	0.03	0.01	0.03	0.02	0.01	0.03	-	0.02	-	-

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	3Q17	4Q17	1Q18	2Q18	May 18	Jun 18	Jul 18	Year Earlier Jul 17	Year Earlier % change
Crude Oil												
Americas	4026	4542	4361	4289	3941	3827	4085	3826	4050	4071	4400	-7%
Europe	9505	9253	9711	9779	9935	9502	9433	9665	9341	9920	9950	0%
Asia Oceania	6573	6659	6842	6937	6942	6849	6571	6590	6273	6783	7041	-4%
Total OECD	20103	20455	20914	21005	20818	20178	20089	20082	19665	20775	21391	-3%
LPG												
Americas	10	20	20	15	25	33	14	10	12	23	11	110%
Europe	418	445	437	421	400	492	469	467	501	436	410	6%
Asia Oceania	518	567	549	468	538	595	567	446	582	442	550	-20%
Total OECD	947	1032	1006	904	963	1120	1050	923	1095	900	970	-7%
Naphtha												
Americas	14	10	19	18	20	10	5	5	3	11	12	-9%
Europe	345	348	369	363	389	409	368	449	320	283	304	-7%
Asia Oceania	950	908	981	971	991	1031	958	1051	883	1045	946	10%
Total OECD	1309	1266	1369	1353	1399	1450	1331	1505	1205	1339	1262	6%
Gasoline[3]												
Americas	670	735	727	880	560	559	1060	1087	1084	961	790	22%
Europe	105	100	162	130	224	155	63	31	99	90	152	-41%
Asia Oceania	91	87	103	96	94	123	123	156	105	110	69	59%
Total OECD	866	922	991	1106	879	838	1246	1274	1288	1161	1011	15%
Jet & Kerosene												
Americas	141	169	171	181	210	131	136	151	175	179	132	35%
Europe	445	504	506	552	535	426	538	561	509	622	578	8%
Asia Oceania	66	73	77	45	87	112	60	77	38	63	57	11%
Total OECD	651	745	754	779	832	669	733	789	722	864	767	13%
Gasoil/Diesel												
Americas	76	67	77	48	144	179	63	79	31	85	49	75%
Europe	1161	1340	1381	1394	1360	1403	1380	1426	1412	1574	1424	11%
Asia Oceania	158	196	195	189	179	214	256	285	215	255	197	30%
Total OECD	1395	1602	1654	1631	1684	1795	1699	1790	1658	1914	1669	15%
Heavy Fuel Oil												
Americas	116	149	131	153	128	158	161	200	143	179	165	9%
Europe	537	477	240	299	174	239	227	195	262	308	269	15%
Asia Oceania	173	153	146	106	153	192	156	167	152	105	116	-10%
Total OECD	826	779	517	559	456	589	544	562	557	593	550	8%
Other Products												
Americas	675	652	717	722	745	722	658	666	657	653	633	3%
Europe	701	774	1009	829	979	1058	979	852	1105	1286	838	53%
Asia Oceania	345	348	255	238	248	277	250	219	265	222	179	24%
Total OECD	1721	1774	1981	1788	1972	2057	1886	1737	2027	2160	1649	31%
Total Products												
Americas	1702	1802	1862	2018	1832	1793	2095	2199	2104	2091	1792	17%
Europe	3712	3988	4104	3988	4062	4182	4024	3981	4207	4598	3974	16%
Asia Oceania	2301	2331	2306	2112	2292	2543	2371	2401	2241	2242	2114	6%
Total OECD	7715	8121	8272	8118	8185	8517	8489	8581	8552	8930	7880	13%
Total Oil												
Americas	5728	6344	6223	6307	5773	5620	6180	6025	6154	6162	6192	0%
Europe	13216	13241	13815	13767	13996	13684	13457	13646	13549	14518	13925	4%
Asia Oceania	8874	8991	9147	9049	9234	9392	8942	8991	8514	9025	9154	-1%
Total OECD	27818	28575	29186	29123	29003	28695	28579	28663	28216	29705	29271	1%

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.

PUBLISHING SCHEDULE – 2019

- Friday 18 January
- Wednesday 13 February
- Friday 15 March
- Thursday 11 April
- Wednesday 15 May
- Friday 14 June
- Friday 12 July
- Friday 9 August
- Thursday 12 September
- Friday 11 October
- Friday 15 November
- Thursday 12 December

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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

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