

Oil Market Report

11 October 2019

- Global oil supply plunged 1.5 mb/d in September to 99.3 mb/d after attacks on Saudi oil facilities briefly shut in more than half the kingdom's production. Even with a swift recovery and steady supply from the rest of OPEC, stock draws are likely in 4Q19. A different picture emerges for 2020, when non-OPEC supply growth, led by the US, Brazil and Norway, accelerates from 1.8 mb/d to 2.2 mb/d, reducing the call on OPEC to 29 mb/d.
- Global oil demand recovered from earlier low levels, rising 0.8 mb/d year-on-year in July and 1.4 mb/d in August. Growth is expected to quicken to 1.6 mb/d in 2H19, benefitting from a lower base in 2018 and oil prices currently 30% lower y-o-y. Our demand growth forecasts for 2019 and 2020 are both reduced by 0.1 mb/d, to 1 mb/d and 1.2 mb/d, respectively. For 2019 this reflects changes to 2018 data and for 2020 it reflects a lower GDP outlook.
- In 3Q19, global refining throughput continued the recent pattern of decline, falling by 0.5 mb/d y-o-y, and reducing our annual growth forecast to just 150 kb/d. This is the lowest in ten years. Our refined product balances imply a counter-seasonal draw in 3Q19, as demand is estimated to have picked up after five consecutive quarters of almost no growth. In 2020, throughput increases by 1.2 mb/d.
- OECD industry stocks increased by 20.8 mb in August to 2 974 mb and stood 43.1 mb above the five-year average. Stocks in terms of days of forward demand rose by 0.6 days to 61.6 days, which is 0.6 days below the average. Preliminary data for September showed stocks falling in all three OECD regions and by 21.7 mb overall. Floating storage of crude oil rose by 1.8 mb in September to 70.1 mb. The number of Iranian vessels used for storage was unchanged from the previous month.
- On 16 September, the first day of trading after the attacks on Saudi Arabia, ICE Brent futures rose by 19% to \$71.95/bbl. Following reassurances from Saudi Arabia that normal operations would resume, prices quickly eased and are currently around \$2/bbl below the level immediately before the attacks. Sanctions against a Chinese shipping company tightened vessel supply and propelled freight rates to their highest in more than ten years.



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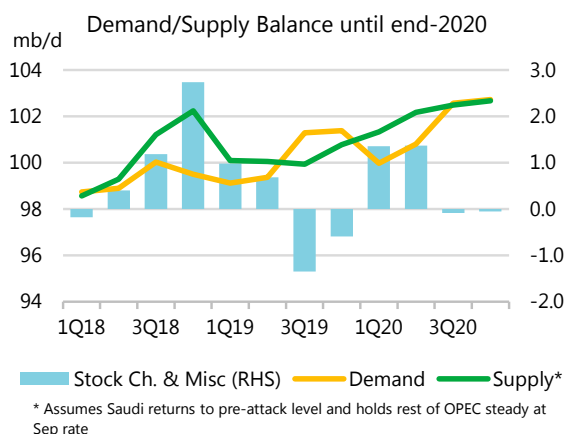
Back to business as usual

Oil markets in September withstood a textbook case of a large-scale supply disruption as the attacks on Saudi Arabia temporarily affected about 5.7 mb/d of crude production capacity. On Monday 16 September, the first trading day following the attacks, after an initial spike to \$71/bbl Brent prices fell back as it became clear that the damage, although serious, would not cause long-lasting disruption to markets. Saudi Aramco's achievement in restoring operations and maintaining customer confidence was very impressive. This is reflected in the fact that as we publish this *Report*, the price of Brent is close to \$58/bbl, actually \$2/bbl below the pre-attack level.

Intuitively, the precision attacks on Saudi Arabia and the possibility of a repeat should keep the market on edge. There should be talk of a geopolitical premium on top of oil prices. For now, though, there is little sign of this with security fears having been overtaken by weaker demand growth and the prospect of a wave of new oil production coming on stream – Norway's big Johan Sverdrup project started up this month and will reach 440 kb/d by mid-2020.

In this *Report*, for both 2019 and 2020 we have cut our headline oil demand growth number by 0.1 mb/d. However, the reduction for 2019 mainly reflects a technical adjustment due to new data showing higher US demand in 2018 which has depressed this year's growth number. This year is seeing two very different halves. In 1H19, global growth was only 0.4 mb/d but in 2H19 it could be as high as 1.6 mb/d with recent data lending support to the outlook: non-OECD demand growth in July and August was 1 mb/d and 1.5 mb/d, respectively, with Chinese demand growing solidly by more than 0.5 mb/d y-o-y. The OECD countries remain in a relatively weak state, although as we move through 2H19 y-o-y growth returns helped by a comparison versus a low base in the latter part of 2018. Demand is supported by prices (Brent) that are more than 30% below year-ago levels. For 2020, a weaker GDP growth forecast has seen our oil demand outlook cut back to a still solid 1.2 mb/d.

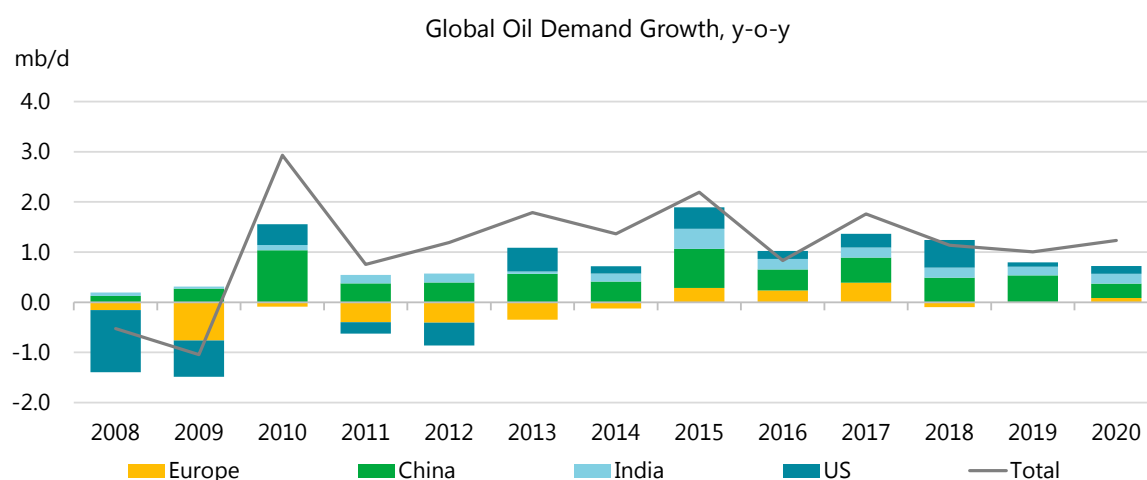
The renewed focus on demand and supply fundamentals does not mean that the attacks on Saudi Arabia can be shrugged off as being of little consequence. Further incidents of this nature in the strategically important Gulf region could happen and cause even greater disruption. A key lesson from recent weeks is that the world has a big insurance policy in the form of stockholdings. The market is the first responder to a supply crisis and OECD commercial stocks in August increased for the fifth consecutive month and are now close to the record 3+ billion barrels level we saw during most of 2016. IEA members hold an additional 1.6 billion barrels of strategic stocks, and the prompt response by the Agency to consider an emergency stocks release helped to calm markets. Commercial and strategic inventories go a long way to offsetting the lack of spare crude production capacity outside of Saudi Arabia, limited mainly to 1 mb/d in Iraq, UAE, Kuwait and Russia. We might have quickly returned to business as usual, but security of supply remains very relevant.



Demand

Overview

In this *Report*, we have reduced our oil demand growth forecasts for 2019 and 2020 by 65 kb/d and 105 kb/d, to 1 mb/d and 1.2 mb/d, respectively. We expect growth in 2019 to be the weakest since 2016, following evidence of a slowdown in several major consuming regions and countries, including Europe, India, Japan, Korea and the US. Oil demand growth in China is, in contrast, holding up at robust levels.



The change to our growth figure for this year is prompted by an upward revision to 2018 deliveries in the US, rather than further evidence of weak demand in 2019. However, the lower estimate for 2020 results almost entirely from lower economic growth forecasts for a number of countries by the OECD, which have been incorporated into our model.

Global Oil Demand (2018-2020)															
(million barrels per day)*															
	1Q18	2Q18	3Q18	4Q18	2018	1Q19	2Q19	3Q19	4Q19	2019	1Q20	2Q20	3Q20	4Q20	2020
Africa	4.3	4.2	4.1	4.3	4.2	4.3	4.3	4.2	4.3	4.3	4.4	4.4	4.3	4.4	4.4
Americas	31.6	31.7	32.3	32.0	31.9	31.6	31.8	32.5	32.4	32.1	31.6	32.0	32.8	32.7	32.3
Asia/Pacific	35.5	35.0	34.6	35.4	35.1	35.8	35.5	35.3	36.5	35.8	36.6	36.3	36.1	37.3	36.6
Europe	14.8	14.9	15.4	14.9	15.0	14.6	14.8	15.5	15.1	15.0	14.7	14.9	15.5	15.2	15.1
FSU	4.5	4.6	4.9	4.8	4.7	4.6	4.8	5.1	5.0	4.9	4.7	4.9	5.2	5.0	4.9
Middle East	8.1	8.4	8.7	8.2	8.3	8.1	8.2	8.7	8.1	8.3	8.0	8.3	8.8	8.2	8.3
World	98.7	98.9	100.0	99.5	99.3	99.1	99.4	101.3	101.4	100.3	100.0	100.8	102.6	102.7	101.5
Annual Chg (%)	2.1	0.6	1.4	0.6	1.2	0.4	0.5	1.3	1.9	1.0	0.9	1.4	1.3	1.3	1.2
Annual Chg (mb/d)	2.0	0.6	1.4	0.6	1.1	0.4	0.5	1.3	1.9	1.0	0.9	1.4	1.3	1.4	1.2
Changes from last OMR (mb/d)	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	-0.1	-0.2	-0.1	-0.1	-0.1

* Including biofuels

In July and August, global oil demand recovered substantially from the low levels reached in May and June, growing 755 kb/d and 1.4 mb/d year-on-year (y-o-y), respectively, to well above the symbolic 100 mb/d threshold. In August, consumption reached a new record high of 102.2 mb/d. Demand fell in the OECD, extending a trend seen since the end of 2018. However, in many non-OECD countries demand grew strongly; e.g. in China (+300 kb/d in July and

+870 kb/d in August), India (+185 kb/d in July and +155 kb/d in August) and Russia (+300 kb/d in July and +215 kb/d in August).

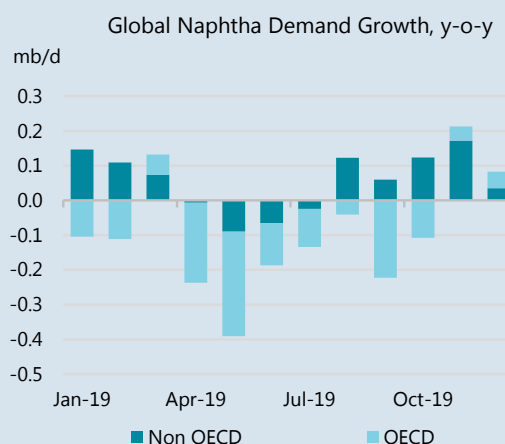
Global Demand by Product							
(thousand barrels per day)							
	Demand			Annual Chg (kb/d)		Annual Chg (%)	
	4Q18	1Q19	2Q19	1Q19	2Q19	1Q19	2Q19
LPG & Ethane	12 439	13 079	12 000	162	- 16	1.3	-0.1
Naphtha	6 608	6 811	6 161	59	- 273	0.9	-4.2
Motor Gasoline	26 266	25 641	26 639	64	460	0.3	1.8
Jet Fuel & Kerosene	7 830	7 975	7 841	148	134	1.9	1.7
Gas/Diesel Oil	28 874	28 296	28 766	254	243	0.9	0.9
Residual Fuel Oil	6 506	6 548	6 426	- 221	- 280	-3.3	-4.2
Other Products	10 980	10 764	11 534	- 92	211	-0.8	1.9
Total Products	99 504	99 113	99 368	374	479	0.4	0.5

Box 1. LPG continues to displace naphtha in petrochemical industry

Naphtha typically trades below crude prices and is often thought of as one of the least wanted refined products. Its demand has expanded in the last few years, however consumption fell by 85 kb/d y-o-y in January-August 2019. If the reduction in naphtha demand translates into a decline for the full year, as we predict, this would mark the first annual fall since 2011.

The reduction can be attributed to a slowdown in petrochemical feedstock demand growth, partly due to slowing economic activity, as well as growing competition from propane and ethane linked to the US shale oil and gas boom. In addition, a temporary factor was that heavier than usual maintenance at European crackers in April-May reduced the demand for naphtha.

Naphtha and propane compete with each other as petrochemical feedstocks in Europe and to a lesser extent in Asia. Seasonal heating demand for LPG lifts propane prices vs. naphtha. Since March (end of the northern hemisphere winter), propane has traded at a discount to naphtha large enough to incentivise fuel switching by crackers in both regions. In Europe, several crackers were reported to have increased their intake of propane to around 15-20% from the usual 10%. In July, the propane-naphtha spread widened to a four-year high amid seasonally low demand and large US exports. We expect LPG/ethane consumption to grow 275 kb/d in 2019, one of the largest increases amongst oil products, due to the startup of several ethane crackers in the US and propane dehydrogenation plants in China, as well as rising household consumption.



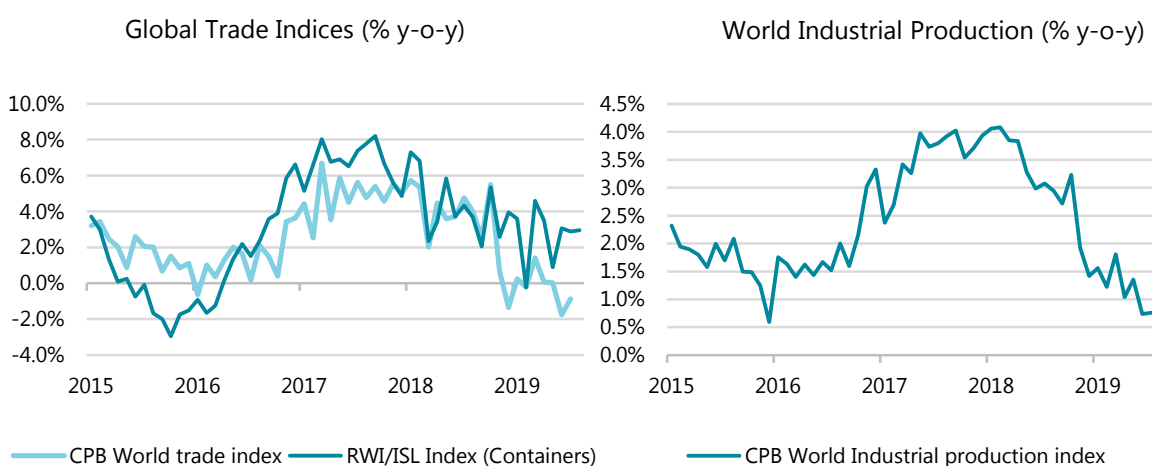
The global manufacturing slowdown that has occurred in the last few months has resulted in lower petrochemical product needs and therefore lower naphtha demand. There has been less of an impact on LPG and ethane plants, given relatively cheaper feedstock costs. Sales at most major petrochemical companies were either flat or down in the first half of 2019. While growth is still

expected during 2019 due to the continuing dynamism of Asia, certain sectors, e.g. the automotive industry, are in crisis and no longer need as much petrochemical input.

Fundamentals

The economic outlook used in this *Report* has been revised down, following the publication of the OECD Interim Economic Outlook on 19 September. The organisation reduced its projections of world economic growth for 2019 from 3.2% to 2.9%, and for 2020 from 3.4% to 3%. The main factors behind the downgrade are uncertainty due to trade disputes and the impact of Brexit.

Investment growth has decreased in the G20 economies from 5% at the start of 2018 to 1% in 1H19 and demand for certain durable consumer goods e.g. cars has collapsed. Tensions are also reducing trade volumes, and the World Trade Organisation now expects trade volumes to increase by only 1.2% in 2019. The slowdown in trade volumes has already affected bunker deliveries. It has also had a strong impact on truck transportation and thus diesel consumption.



Euro Area GDP growth is now projected by the OECD at 1.1% in 2019 and 1% in 2020. The 2020 forecast was revised down due to a weaker outlook for Germany. Its economy relies heavily on manufacturing and exports and has suffered recently from lower car sales in Europe, down 9% y-o-y in August, as well as uncertainty surrounding Brexit and the trade dispute between China and the US. Germany's economy is expected to expand by only 0.6% in 2020. The economy contracted by 0.1% in 2Q19 and is likely to continue to show weakness in 3Q19, with industrial orders falling by 0.6% in August. The manufacturing purchasing manager index (PMI) fell to 41.7 in September, the lowest since June 2009, dragging down the European manufacturing PMI to 45.7.

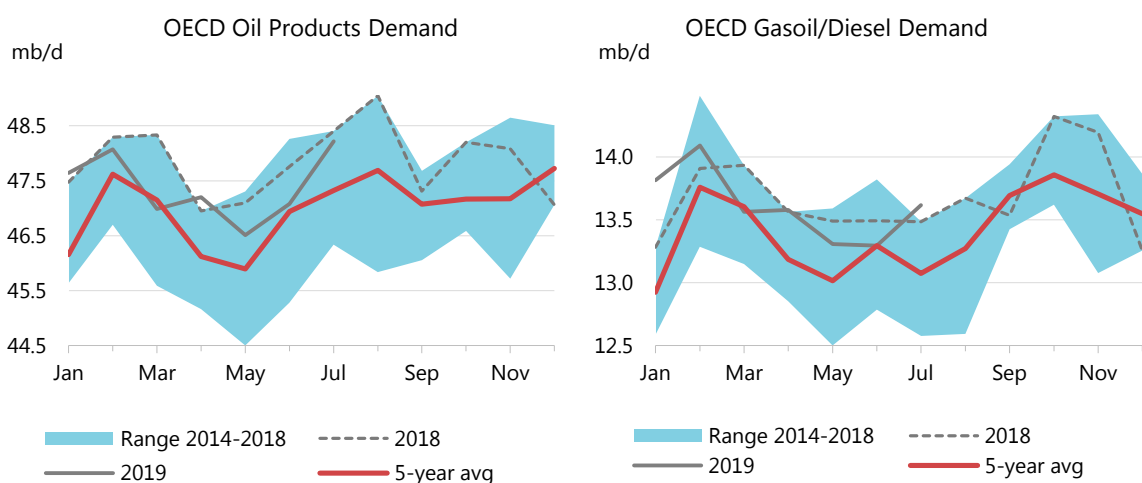
The US manufacturing sector is also in the doldrums, with the Institute for Supply Management index of factory activity falling from 49.2 in August to 47.8 in September. The industrial slowdown is linked directly and indirectly to trade tensions, resulting in reduced business confidence and weaker investment. Service activity growth has been resilient so far. The US economic outlook was revised down by the OECD to 2.4% for 2019 and to 2% for 2020.

China's growth prospects were also revised slightly down in the latest OECD outlook, to 6.1% in 2019 and 5.7% for 2020. China implemented significant stimulus measures to boost growth, announcing at the start of 2019 tax cuts of close to 2 trillion RMB and special bond issuances for infrastructure spending worth 2.15 trillion RMB. In September, the People's Bank of China cut its reserve requirement for all banks by 0.5% pt, potentially freeing 900 billion RMB for new loans. Growth slowed to 6.2% in 2Q19 and appears to have stabilised, with the official PMI ending at 49.8 in September, up from 49.5 in August. The Caixin PMI pointed a brighter picture for smaller privately-owned companies, rising from 50.4 in August to 51.4 in September.

Growth projections were also sharply revised down for India by -1.3% pt in 2019 to 5.9% and -1.1% pt in 2020 to 6.3%. For Brazil, growth was reduced by -0.6 % pt for both 2019 and 2020, to 0.8% and 1.7% respectively. In Mexico, there was a downgrade of -1.1% pt in 2019 to 0.5% and -0.5% pt in 2020 to 1.5%. Finally, Saudi Arabia's growth was revised down by -1% pt for 2019 to 1.5% and -0.4% for 2020 to 1.5%.

Our oil price assumptions were left roughly unchanged in this *Report*, as the Brent forward price curve moved little vs. last month's *Report*, despite the attacks against Saudi oil infrastructure. Average Brent prices are assumed at \$63/bbl in 2019, falling to \$57/bl in 2020. The current 2020 oil market outlook largely reflects the combined impact of the competing forces of lower oil prices and weaker GDP growth. This month's global GDP revision could, in theory, cut 135 kb/d from our oil demand forecast for the rest of 2019 and 180 kb/d in 2020.

OECD



OECD oil demand bounced back in July, but it was still 190 kb/d below the year ago level. This follows y-o-y falls in May and June of 585 kb/d and 685 kb/d, respectively. Gasoil demand jumped by 130 kb/d y-o-y, supported by strong increases in Europe and Korea. However, very low bunker fuel deliveries undermined overall demand. For August, provisional data point to a 150 kb/d drop in OECD deliveries.

Residual fuel oil demand posted a sharp y-o-y decline of 215 kb/d in July, largely due to reduced bunker deliveries. Part of the weakness is due to the current slowdown in world trade. The drop could also reflect bunker retailers emptying stocks in preparation for the IMO 2020 switch (and therefore reducing their purchases). If this is so, we should see a rebound in bunker demand in the coming months. Naphtha consumption rose in July after maintenance at several

petrochemical plants ended but remained 110 kb/d below last year (See *LPG continues to displace naphtha in petrochemical industry*).

We have final data for OECD countries until July and August numbers for Korea and Mexico. Provisional August figures are available for Germany, France, Italy and Japan. Preliminary weekly data are used for the US in August and September.

OECD Demand based on Adjusted Preliminary Submissions - August 19																
(million barrels per day)																
	Gasoline		Jet/Kerosene		Diesel		Other Gasoil		LPG/Ethane		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	mb/d	% pa
OECD Americas	11.46	-0.8	2.25	1.6	4.86	-0.8	0.48	4.1	3.70	4.5	0.71	9.4	2.99	-6.5	26.45	-0.3
US*	9.75	-1.0	1.94	2.0	4.13	-1.0	0.12	21.3	2.84	3.6	0.44	14.6	2.37	-7.1	21.59	-0.5
Canada	0.91	-0.1	0.20	2.3	0.25	-3.6	0.31	-0.8	0.44	15.0	0.04	-5.2	0.43	-5.5	2.58	0.9
Mexico	0.72	0.1	0.08	-6.0	0.31	6.8	0.05	0.4	0.36	1.0	0.21	3.1	0.17	-1.3	1.91	1.2
OECD Europe	2.08	-1.7	1.71	0.9	5.06	-1.7	1.39	7.2	1.14	-6.5	0.85	-2.7	2.32	-1.4	14.54	-1.0
Germany	0.52	0.3	0.24	3.1	0.77	-3.2	0.40	45.8	0.13	19.1	0.05	-28.5	0.33	-14.7	2.45	2.3
United Kingdom	0.29	2.9	0.33	1.5	0.53	2.1	0.16	-6.2	0.12	-3.5	0.03	2.1	0.15	-6.1	1.61	0.0
France	0.22	4.0	0.19	0.8	0.65	-6.2	0.21	-2.3	0.11	-5.6	0.05	9.4	0.24	-1.6	1.67	-2.6
Italy	0.14	-22.8	0.13	5.8	0.42	-4.6	0.07	-5.3	0.08	-2.8	0.07	5.3	0.27	-3.9	1.19	-5.4
Spain	0.14	-1.5	0.18	2.6	0.48	-2.0	0.13	-2.7	0.06	-20.7	0.16	7.1	0.17	-6.2	1.31	-2.0
OECD Asia & Oceania	1.69	2.3	0.72	-1.6	1.47	3.8	0.42	-1.9	0.73	6.4	0.45	-14.8	2.44	1.5	7.91	0.9
Japan	0.96	-1.0	0.32	-5.0	0.46	2.1	0.24	-9.8	0.31	-10.0	0.27	-3.8	1.01	2.9	3.57	-1.6
Korea	0.28	18.2	0.17	3.0	0.45	16.9	0.11	9.9	0.34	30.7	0.15	-31.1	1.22	0.3	2.72	5.4
Australia	0.32	0.5	0.17	0.1	0.50	-4.1	0.00	-151.9	0.06	-1.2	0.01	3.7	0.13	2.2	1.19	-1.1
OECD Total	15.23	-0.6	4.68	0.9	11.39	-0.6	2.29	4.8	5.57	2.3	2.01	-2.0	7.75	-2.6	48.90	-0.3

* Including US territories

OECD Americas

OECD Americas demand remained relatively subdued in July, and was only 30 kb/d above last year. Both gasoline and gasoil demand were down y-o-y, by respectively 115 kb/d and 105 kb/d. LPG/ethane consumption rose by 95 kb/d y-o-y.

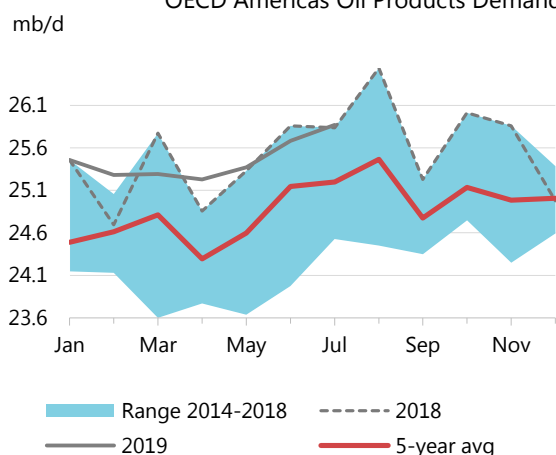
US demand rose by 60 kb/d y-o-y in July. This month, we updated June and July data with the Energy Information Administration Petroleum Supply Monthly (PSM) numbers. Monthly PSM data for 2018 have also been revised, with the publication of Petroleum Supply Annual (PSA) data. These revisions added 55 kb/d to US oil demand in 2018: mainly LPG/ethane (20 kb/d), gasoline (10 kb/d) and gasoil (10 kb/d).

US gasoline demand fell 155 kb/d y-o-y in July, and provisional data for August also point to a decline. However, September deliveries should be higher y-o-y. The July decline in gasoline demand is surprising as it happened despite an increase in Vehicles Miles Travelled (VMT) of 1.7% y-o-y, which followed a drop of -0.3% in June.

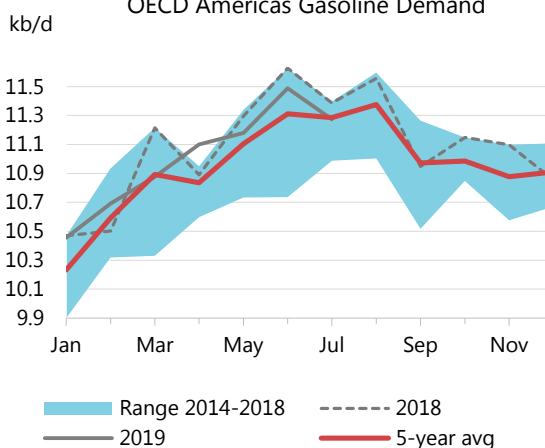
Gasoil demand contracted by 55 kb/d y-o-y in July and consumption remained low in August, according to provisional data. US industrial production growth weakened to below 1% y-o-y in July-August. However, the American Trucking Association truck tonnage index points to an increase in road freight by 4.1% y-o-y in August after growth of 6% in July.

LPG/ethane demand grew by only 55 kb/d in July but it will accelerate in 2H19, reaching 250 kb/d y-o-y in December, as several petrochemical projects start or ramp up production. Jet and kerosene demand rose by a strong 65 kb/d in July and is expected to remain high in 2H19. US domestic Revenue Passenger Kilometres (RPK) rose by 3.8% y-o-y in July.

OECD Americas Oil Products Demand



OECD Americas Gasoline Demand



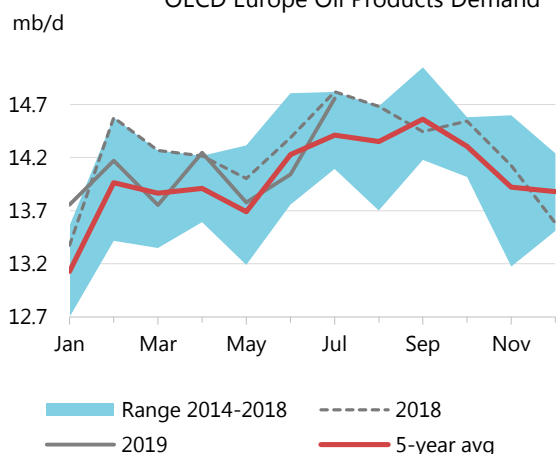
Canadian data showed a drop of 70 kb/d y-o-y in total oil demand in July, on weak naphtha, gasoil and gasoline deliveries. Due to uncertainties about coverage, we are not fully using data provided by **Mexico** at this time.

Overall, OECD Americas demand is expected to grow by 165 kb/d in 2019, or a third of the growth seen in 2018. LPG/ethane demand will be supported by petrochemical projects coming on stream in the US in 2H19. Demand growth in 2020 is projected at 180 kb/d, as growth of 175 kb/d for LPG/ethane offset weak gasoline and diesel deliveries.

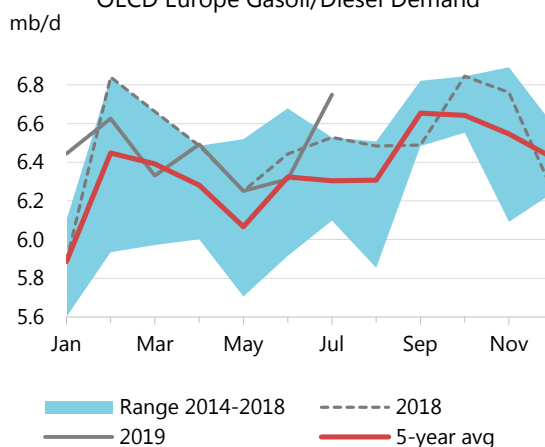
OECD Europe

OECD Europe demand fell 60 kb/d y-o-y in July after a drop of 345 kb/d in June, an improvement nevertheless after several months of very weak performance. Gasoil demand jumped by 220 kb/d y-o-y, helped by a strong increase in heating oil deliveries. Naphtha demand declined by 75 kb/d y-o-y in July and data pointed to a decline of 30 kb/d y-o-y in August.

OECD Europe Oil Products Demand



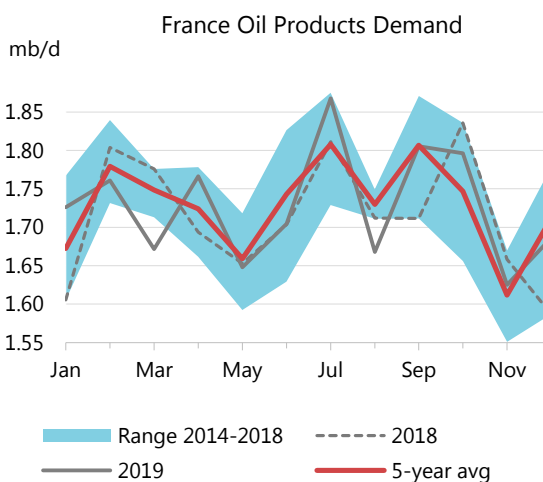
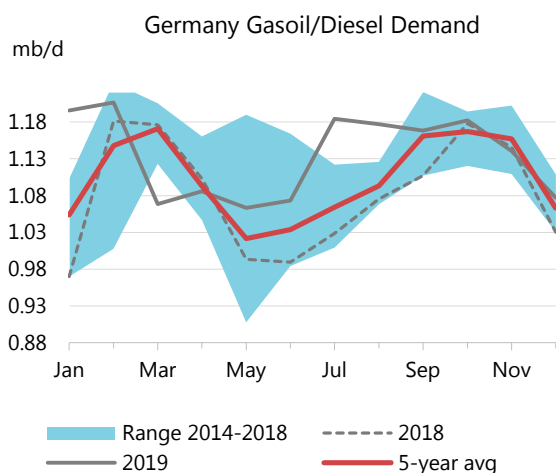
OECD Europe Gasoil/Diesel Demand



Oil demand in the **Netherlands** continued to be sharply lower y-o-y in July. Naphtha demand was flat as some crackers restarted after maintenance. In addition, sales of bunker fuel oil in July remained well below year ago levels, possibly reflecting suppliers' preparations ahead of the IMO 2020 switch and a slowdown in world trade volumes.

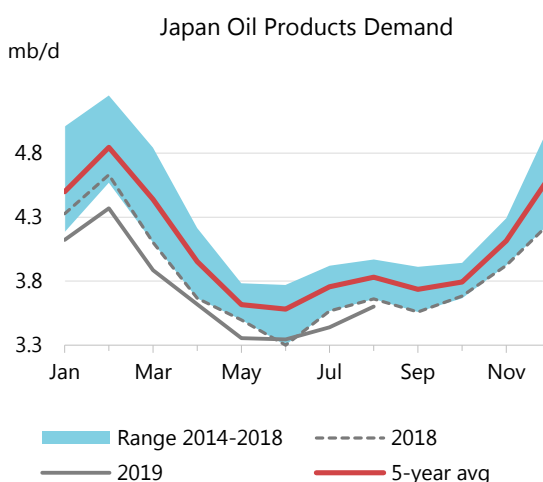
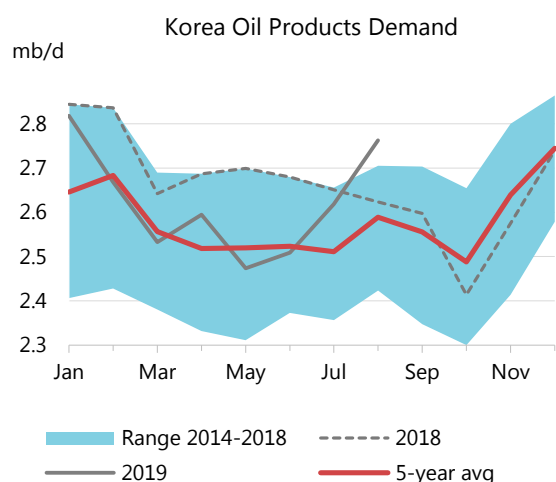
German oil demand grew by 145 kb/d y-o-y in July but growth slowed to 55 kb/d in August according to provisional data. While the economic environment remained weak, German industrial production posted a surprising rebound in August. Demand was supported by very strong y-o-y increases in heating oil deliveries, largely resulting from a very weak 2018 base. In addition, heating oil deliveries were likely supported by relatively low consumer stocks and lower prices. Heating oil deliveries rose by 130 kb/d y-o-y in July and preliminary data point to an increase of 125 kb/d in August. In September-December, we expect growth to average 30 kb/d as deliveries are likely to go back to historical levels from October.

French oil demand rose by 55 kb/d y-o-y in July but declined by 45 kb/d in August, according to provisional data. Gasoil consumption rose by 45 kb/d in July, supported by demand for transport during the summer holidays.



OECD Europe demand is likely to decline by just 35 kb/d in 2019 and increase by a modest 60 kb/d in 2020, supported by lower prices and a small rebound in economic activity.

OECD Asia Oceania



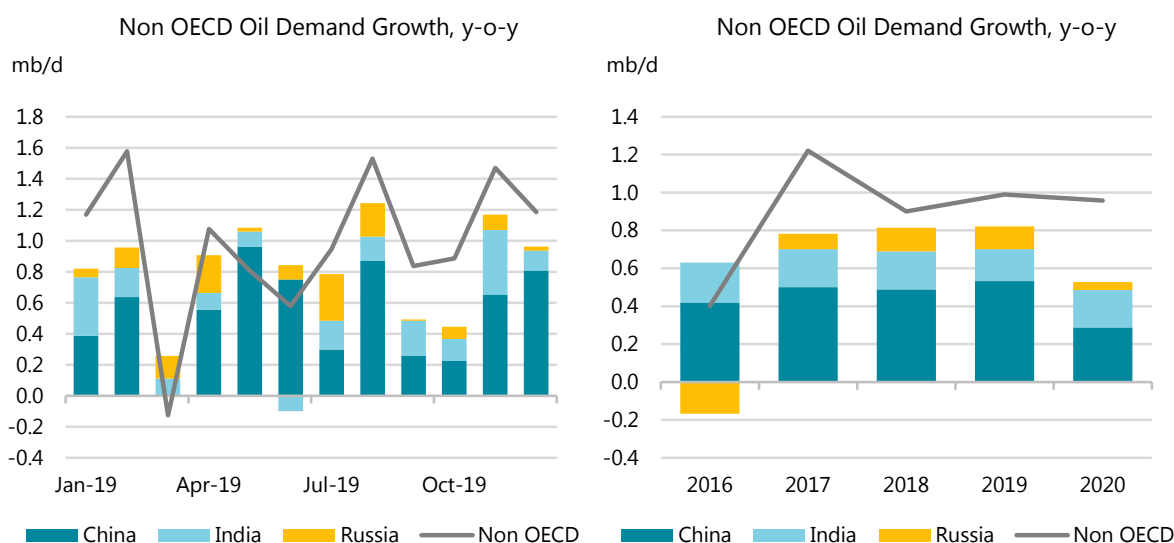
Korea is largely responsible for the change. After a decline of 120 kb/d on average in January-July, oil product demand jumped by 140 kb/d y-o-y in August. Gasoline demand rose by 40 kb/d and diesel demand by 75 kb/d. Naphtha demand rose by 45 kb/d and LPG demand by 80 kb/d.

Part of the spectacular upturn can be explained by a change in taxes. The Korean government introduced in November 2018 a tax relief (15%) on gasoline, diesel and LPG to help low income households and small businesses. The relief was reduced in May (to 7%) and removed at the end of August. Consumers have increased their fuel purchases in August to benefit from lower prices but are likely to lower their fuel demand from September. By contrast, trends remained unchanged in **Japan**, where oil demand declined by 130 kb/d y-o-y in July and by 60 kb/d in August. Jet/kerosene demand rose by 10 kb/d in July on strong air traffic demand. Domestic RPK growth rebounded in Japan to 4.7% y-o-y in July from 2.6% in June.

OECD Asia Oceania oil demand is expected to decline by 120 kb/d in 2019. In the first half of the year, warmer than usual weather and slowing economic activity resulted in a 280 kb/d fall in demand. In 2020, consumption is expected to grow by a mere 30 kb/d.

Non-OECD

Non-OECD oil demand grew by 945 kb/d y-o-y in July and, according to preliminary statistics, by an even faster pace of 1.5 mb/d in August, the strongest growth seen since February. Chinese consumption remains the fastest growing globally, despite an economic and trade slowdown that started earlier in the year. Demand was up 300 kb/d y-o-y in July and by 870 kb/d in August, and growth has averaged 555 kb/d in the first eight months of 2019.

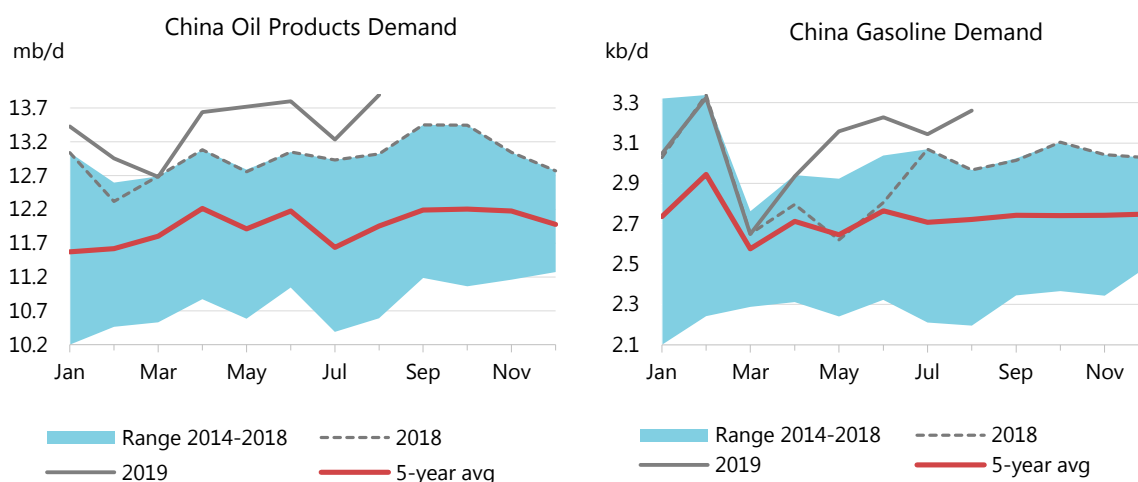


India has the second-fastest growth: demand rose by 185 kb/d in July and 155 kb/d in August. However lower economic activity has taken more of a toll than in China (See *Indian oil demand reflects weaker economy*). Asia was responsible for about 70% of all growth in oil demand in non-OECD countries during July-August, slightly less than expected for 2019 overall. Elsewhere, consumption rose strongly in Russia (+300 kb/d in July and +215 kb/d in August), helped by higher transport fuel demand, and in Africa. However, figures were mixed in Latin America, where demand increased in July and fell in August

We have reduced our non-OECD demand growth estimates by 85 kb/d in June and 175 kb/d in July due to lower figures in Egypt, Hong Kong, Iraq, Kuwait and Pakistan. However, stronger-than-expected deliveries in China and Russia boosted our August demand by 390 kb/d.

China

Chinese apparent oil demand (estimated, based on refinery output, trade flows and oil stocks) increased by 870 kb/d y-o-y in August, the strongest performance since May. Demand for all fuels went up, but the largest gains were for gasoline (+295 kb/d) and diesel (+320 kb/d). Combined jet/kerosene demand rose 65 kb/d, naphtha grew 90 kb/d and LPG increased 25 kb/d.



Consumption grew 555 kb/d on average during January-August, a faster pace than during the same period in 2018, suggesting that the economic slowdown has, so far, not had a major impact. Transport fuels such as gasoline and diesel have seen the largest increases (in both volumetric and relative terms) during the period, but jet fuel consumption is also growing rapidly. Fuel oil sales were down around 25 kb/d on average, ahead of the IMO bunker fuel regulations due to be implemented at the start of 2020.

China: Demand by Product

(thousand barrels per day)

	Demand			Annual Chg (kb/d)		Annual Chg (%)	
	2018	2019	2020	2019	2020	2019	2020
LPG & Ethane	1 620	1 701	1 792	81	91	5.0	5.4
Naphtha	1 268	1 306	1 374	38	69	3.0	5.3
Motor Gasoline	2 984	3 141	3 189	157	47	5.3	1.5
Jet Fuel & Kerosene	812	866	926	53	61	6.5	7.0
Gas/Diesel Oil	3 355	3 468	3 520	113	52	3.4	1.5
Residual Fuel Oil	432	401	367	- 31	- 34	-7.1	-8.4
Other Products	2 503	2 625	2 627	122	2	4.9	0.1
Total Products	12 975	13 507	13 795	532	288	4.1	2.1

Industrial output is still increasing, but in August the pace of growth was the lowest since 2002, while retail sales are also slowing. Despite these negative indicators, imports of commodities such as coal, iron ore and liquefied natural gas are still growing. We forecast oil demand in China to reach a new record high of 13.5 mb/d in 2019, up 530 kb/d on 2018. Gasoline and diesel will contribute the most, followed by other products and LPG, whereas fuel oil demand is expected to fall. Growth is expected to slow to 290 kb/d in 2020 on slowing transport fuel demand.

India

Indian oil demand grew 155 kb/d y-o-y in August to reach 4.7 mb/d. The bulk of the growth came from LPG consumption, which increased by 105 kb/d. The Diwali festival at the end of October is likely to boost LPG sales further.

Gasoil/diesel deliveries declined 15 kb/d y-o-y, the first fall since November 2018, as the country was affected by flooding across swathes of northern India which reduced gasoil consumption in agriculture and hampered road transport. September and October gasoil/diesel deliveries are likely to be affected too, with the monsoon set to persist until mid-October. The Meteorological Society said that September was the wettest for the month in more than a century.

Gasoline sales increased by 60 kb/d in August, whereas jet/kerosene and fuel oil both fell 20 kb/d on the year. We expect Indian oil demand to grow 225 kb/d on average during September-December, supported by a rebound in LPG deliveries and better jet/kerosene and naphtha demand, and for 2019 as a whole to see growth of 170 kb/d.

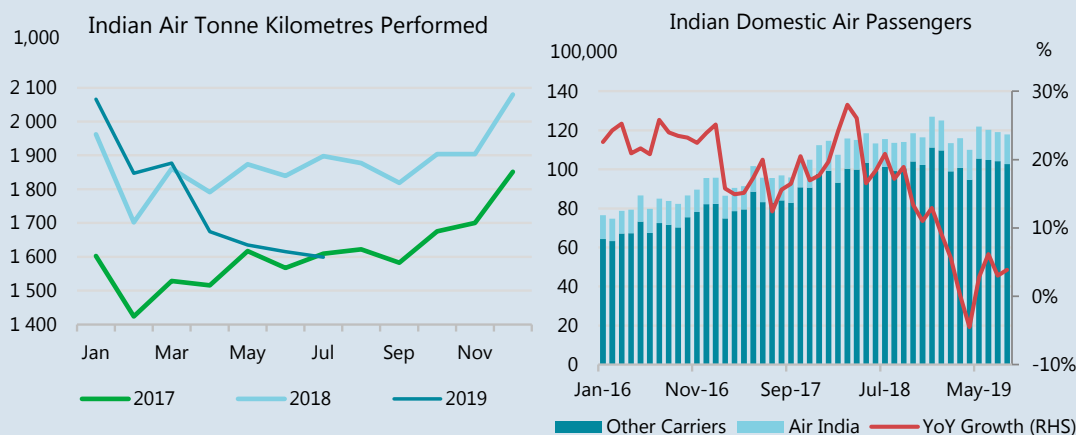
India: Demand by Product							
(thousand barrels per day)							
	Demand			Annual Chg (kb/d)		Annual Chg (%)	
	2018	2019	2020	2019	2020	2019	2020
LPG & Ethane	782	837	861	54	24	6.9	2.9
Naphtha	324	316	329	- 8	13	-2.5	4.1
Motor Gasoline	676	728	756	51	29	7.6	4.0
Jet Fuel & Kerosene	252	245	265	- 7	21	-2.9	8.4
Gas/Diesel Oil	1 728	1 784	1 853	56	69	3.2	3.8
Residual Fuel Oil	150	146	144	- 5	- 2	-3.2	-1.3
Other Products	949	978	1 022	28	44	3.0	4.6
Total Products	4 863	5 032	5 230	169	198	3.5	3.9

Box 2. Indian oil demand reflects weaker economy

India has been a significant contributor to global oil demand growth in recent years. Consumption rose by 235 kb/d on average during 2014-18, equivalent to nearly a fifth of the global total. We expect the pace of growth to moderate to 170 kb/d y-o-y in 2019, the slowest since 2014, due to an economic slowdown. In September, the OECD downgraded its forecast of the country's growth by 1.3 percentage points to 5.9% in 2019 and by 1 point to 6.3% in 2020. To support growth, the government has announced corporate tax cuts and is reportedly considering a car scrappage scheme to boost sales, while the central bank has cut interest rates five times in 2019.

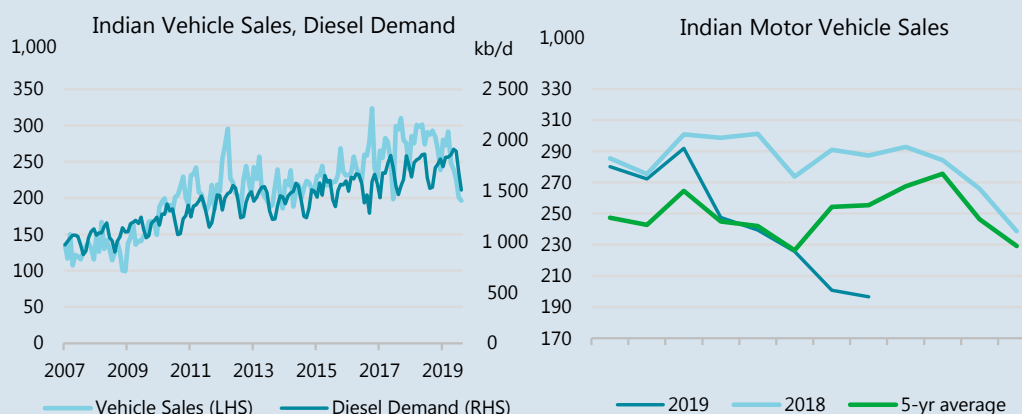
Jet/kerosene, gasoil/diesel and naphtha have shown below-trend growth since the start of the year. Cooking kerosene sales averaged 65 kb/d in the first eight months, down more than 10 kb/d y-o-y, according to the country's *Petroleum Planning and Analysis Cell*, as Indian households responded to a government scheme to use LPG for cooking. Jet fuel deliveries were more or less stable at 180 kb/d; however this marks a significant slowdown from the pace registered in recent years. Passenger air traffic on domestic routes grew by 19-23% during 2015-18, data from India's *Directorate General of Civil Aviation* showed. Growth slowed abruptly at the end of 2018 and was just 3% y-o-y during January-August 2019.

Passenger traffic on international routes was down 5% and total air freight volumes were down 8% during the January-July period. In April, one of the country's biggest airlines, Jet Airways, went into bankruptcy.



Source: Indian Directorate General of Civil Aviation

Demand for diesel, responsible for more than a third of overall oil product sales, grew 40 kb/d y-o-y in January-August, less than half the rate seen during the same period in 2018, reflecting slower economic activity. Vehicle sales were down 16% y-o-y during January-August to 1.95 million, data from *the Society of Indian Automobile Manufacturers* showed, and diesel only made up a fifth of these, down from nearly half of sales a few years ago. The switch to gasoline cars has considerably reduced the rate of growth in diesel fuel demand. It is likely that upcoming changes to fuel standards, due in April 2020, have incentivised consumers to put off car purchases, while new axle load rules for trucks since last year have increased the total available loading capacity and led to a significant slowdown in commercial vehicle sales.



Source: Society of Indian Automobile Manufacturers

As a consequence of its growing share of vehicle sales, gasoline consumption has increased the fastest out of all oil products so far in 2019. LPG consumption growth has remained robust at 50 kb/d in January-August, helped by the government's Ujjwala subsidy scheme, which reached its 80 millionth connection at the beginning of September. *Indian Oil* said that 86% of beneficiaries under the scheme have been refilling their LPG cylinders. Earlier in the year, the lack of small refill

options was blamed for a sales slowdown, but many distributors have now introduced 5 kg refill bottles that are cheaper to buy for poor households.

Other Non-OECD

Oil demand in **Russia** in August was once again higher than expected, growing by 215 kb/d on the year to 4 mb/d. Most oil products saw rising consumption, except naphtha. Demand was up 150 kb/d on average during January-August. Fuel oil, other products and diesel have all seen growth, whereas gasoline, naphtha and LPG have been more or less unchanged.

Non-OECD: Demand by Region							
(thousand barrels per day)							
	Demand			Annual Chg (kb/d)		Annual Chg (%)	
	4Q18	1Q19	2Q19	1Q19	2Q19	1Q19	2Q19
Africa	4 262	4 308	4 341	18	96	0.4	2.3
Asia	27 258	27 486	28 010	685	746	2.6	2.7
FSU	4 817	4 626	4 754	130	139	2.9	3.0
Latin America	6 429	6 251	6 348	- 56	18	-0.9	0.3
Middle East	8 162	8 131	8 211	50	- 210	0.6	-2.5
Non-OECD Europe	791	757	776	23	32	3.2	4.3
Total Products	51 720	51 559	52 440	850	820	1.7	1.6

Consumption in Latin America fell by a significant 125 kb/d y-o-y in August, with **Argentina** (-15 kb/d) and **Brazil** (-10 kb/d) both showing lower deliveries. Most of the regional weakness can be attributed to **Venezuela's** deteriorating economic situation. The country has released only limited data for a long time so, using the information we have, we estimate that deliveries will average just 315 kb/d in 2019, less than half the volume registered in 2015.

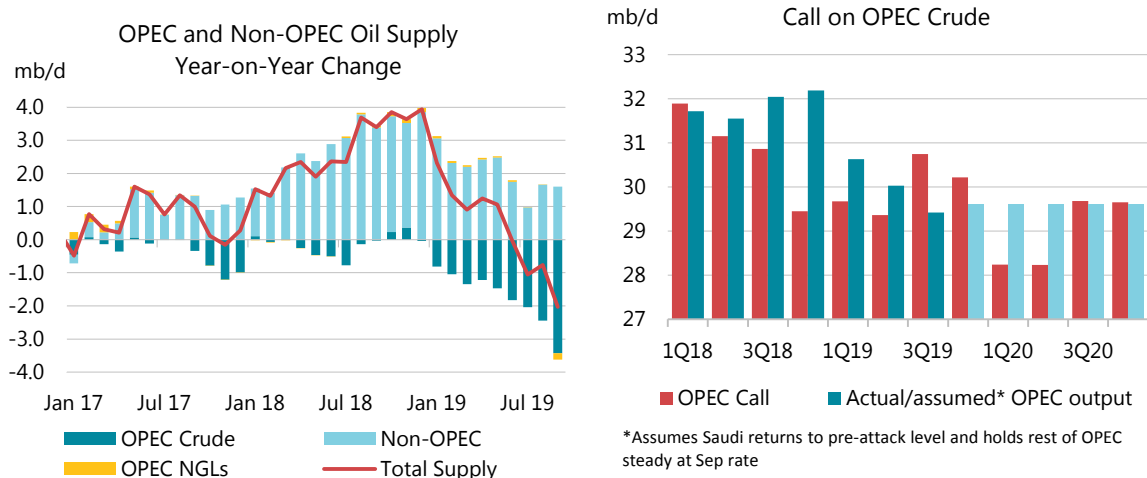
Non-OECD: Demand by Product							
(thousand barrels per day)							
	Demand			Annual Chg (kb/d)		Annual Chg (%)	
	4Q18	1Q19	2Q19	1Q19	2Q19	1Q19	2Q19
LPG & Ethane	6 820	6 962	6 801	206	8	3.0	0.1
Naphtha	3 280	3 275	3 092	110	- 54	3.5	-1.7
Motor Gasoline	11 767	11 650	11 870	156	519	1.4	4.6
Jet Fuel & Kerosene	3 357	3 479	3 382	146	- 12	4.4	-0.4
Gas/Diesel Oil	14 981	14 510	15 402	141	365	1.0	2.4
Residual Fuel Oil	4 565	4 556	4 583	- 128	- 165	-2.7	-3.5
Other Products	6 951	7 127	7 310	219	160	3.2	2.2
Total Products	51 720	51 559	52 440	850	820	1.7	1.6

Demand in the **Middle East** rose 135 kb/d to 8.8 mb/d in August, helped by higher deliveries in Iraq, Saudi Arabia and the United Arab Emirates. Demand in the region has been volatile so far in 2019, rising in some months and falling in others. On balance, it has fallen 55 kb/d during the January-August period. In **Saudi Arabia**, oil demand grew 40 kb/d y-o-y in August, the second consecutive increase after months of falling sales data. It is too soon to know the impact of the September attacks on the domestic market.

Supply

Overview

The attacks on Saudi Arabia's energy infrastructure in September contributed to a global oil supply plunge of 1.5 mb/d, the steepest month-on-month (m-o-m) decline in more than a decade. Saudi Arabia accounted for nearly 1 mb/d of the total decrease, with contributions from seasonal declines in Canada, Norway and from biofuels. There was also a sharp deterioration in Venezuela. In contrast, Brazilian oil production surged to a record high and US production increased further. At 99.3 mb/d, world oil production was down 2 mb/d year-on-year (y-o-y).



A marked slowdown in the US shale patch since the start of the year has led us to lower our expectations slightly for US crude production for 2019 and 2020. In September, US total oil supply growth was estimated at 1.1 mb/d, half the average level in 2018. Despite many new pipeline projects coming on-line during 2H19, operators continue to lay off rigs and instead prioritise investor returns.

The US nevertheless continues to dominate non-OPEC growth, with its 1.6 mb/d increase representing 87% of the total in 2019. While the pace of the US expansion eases further in 2020, total non-OPEC supply growth accelerates to 2.2 mb/d from 1.8 mb/d in 2019. Significant gains are coming from Brazil and Norway.

For OPEC, crude oil supply tumbled 890 kb/d m-o-m to 28.83 mb/d in September, the lowest level since 2009, when deep supply cuts were made to shore up prices during the global economic recession. The second largest drop was posted by Venezuela, which resumed its long term decline with sanctions a major factor. OPEC output is likely to rebound in October due to Saudi Arabia's quick recovery.

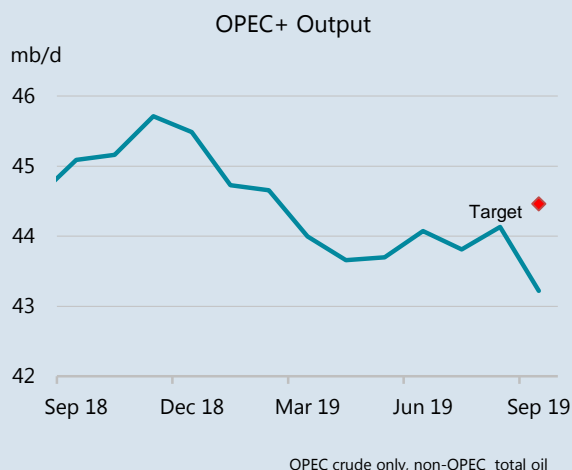
Even if Saudi production returns to pre-attack levels in October and other producers hold steady at September rates, further stock draws are likely in 4Q19. A different picture emerges for 1H20, when lower demand and higher non-OPEC supply reduce the call on OPEC to 28.2 mb/d.

Box 3. Quota adjustments boost OPEC+ compliance

OPEC and non-OPEC producers (OPEC+) have granted higher baselines and supply targets for several countries, now included in this *Report*. Although the total agreed cut remains the same at 1.2 mb/d, the baseline from which the cuts are made has increased by 190 kb/d compared with our previous assessment. OPEC+ has yet to formally announce the adjustments.

The largest change was for Nigeria (+180 kb/d), agreed by ministers at the July OPEC+ meeting.

Against Nigeria's new production target of 1.77 mb/d, its compliance rate rose to 89% in September versus 35% the previous month. Using the previous IEA baseline, Nigeria's compliance rate in September would have been -245%. Our understanding is that the new quota for Nigeria continues to exclude Akpo and Agbami volumes.



OPEC / Non-OPEC Output¹

(million barrels per day)

	Aug 2019 Supply	Sep 2019 Supply	Supply Baseline ²	Agreed Cut	September Compliance	Average Compliance	Sustainable Production Capacity ⁵	Spare Capacity vs Sep Supply ⁶
Algeria	1.02	1.02	1.06	0.032	116%	105%	1.05	0.03
Angola	1.34	1.38	1.53	0.047	315%	268%	1.45	0.07
Congo	0.34	0.34	0.33	0.010	-150%	-172%	0.35	0.01
Ecuador ³	0.55	0.55	0.53	0.016	-119%	-31%	0.55	0.00
Equatorial Guinea	0.11	0.11	0.13	0.004	425%	453%	0.12	0.01
Gabon	0.21	0.19	0.19	0.006	-50%	-457%	0.21	0.02
Iraq	4.81	4.77	4.65	0.141	-83%	-60%	4.90	0.13
Kuwait	2.63	2.65	2.81	0.085	187%	148%	2.93	0.28
Nigeria ³	1.81	1.78	1.83	0.055	89%	-20%	1.80	0.02
Saudi Arabia	9.79	9.02	10.63	0.322	501%	268%	12.00	-
UAE	3.06	3.07	3.17	0.096	102%	115%	3.41	0.34
Total OPEC 11	25.67	24.88	26.85	0.814	242%	152%		
Iran ⁴	2.19	2.19					3.85	-
Libya ⁴	1.06	1.11					1.10	-0.01
Venezuela ⁴	0.80	0.65					0.65	0.00
Total OPEC	29.72	28.83					34.37	0.91
Azerbaijan	0.75	0.76	0.80	0.020	180%	141%		
Kazakhstan	1.89	1.84	2.03	0.040	473%	296%		
Mexico	1.94	1.91	2.02	0.040	260%	252%		
Oman	0.98	0.98	1.00	0.025	65%	67%		
Russia	11.64	11.58	11.75	0.230	72%	73%		
Others ⁷	1.27	1.29	1.22	0.028	-235%	-37%		
Total Non-OPEC	18.46	18.36	18.81	0.383	116%	110%		
Total OPEC+	44.13	43.24	45.65	1.197	202%	138%		

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

2 Based on Oct-2018, except for Azerbaijan and Kuwait based on Sept-2018 and Kazakhstan Nov-2018. Non-OPEC supply baseline for Kazakhstan and Russia use IEA estimates.

3 Nigeria assigned new target from June 2019, Ecuador, Malaysia, Brunei from March 2019.

4 Iran, Libya, Venezuela exempt from cuts.

5 Capacity can be reached in 90 days and sustained for extended period.

6 Spare capacity excludes Iranian crude offline due to sanctions.

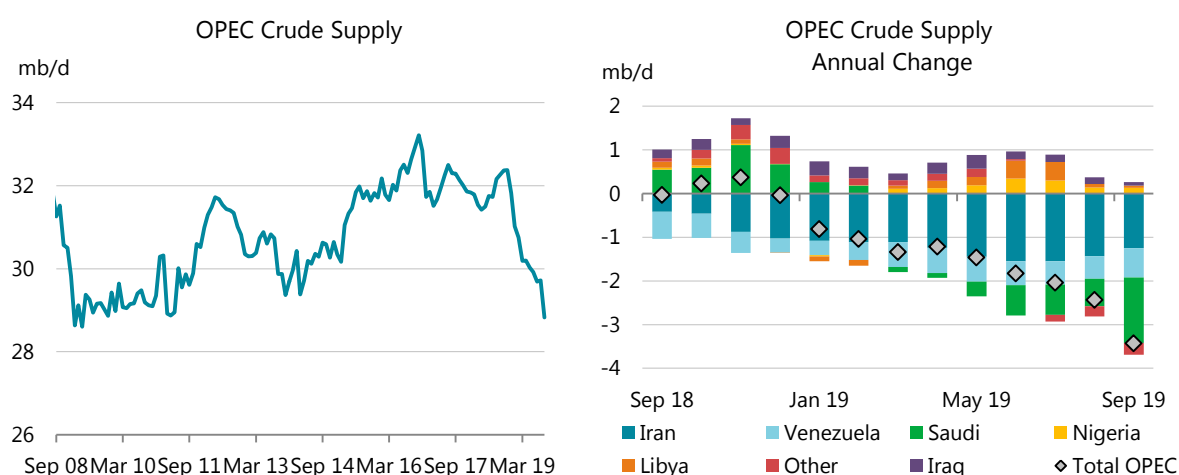
Saudi spare capacity estimated at zero in September due to the attacks.

7 Bahrain, Brunei, Malaysia, Sudan and South Sudan

In March, the supply targets for Brunei and Ecuador were bumped up by 4 kb/d and 7 kb/d to 132 kb/d and 515 kb/d, respectively. Malaysia's new supply quota of 638 kb/d is 45 kb/d lower than our previous assessment (based on October 2018 output) but 26 kb/d higher than the initial baseline used by OPEC. The net effect is that already robust compliance by the OPEC+ countries has strengthened. Compliance in September, temporarily boosted by the Saudi outage, surged to 202% versus an improved 127% in August.

OPEC crude oil supply

OPEC crude output tumbled to a 10-year low of 28.83 mb/d in September, down 890 kb/d m-o-m, after attacks on Saudi Arabia's oil infrastructure briefly shut in more than half its output. The kingdom looks set to return to pre-attack rates in October thanks to a swift recovery (see *Saudi bounces back fast*). In Venezuela, supply sunk by another 150 kb/d. Iraq and Nigeria took steps towards improving compliance with the OPEC+ agreement.



Prior to the attacks on its oil sector, Saudi Arabia was leading OPEC cutbacks aimed at restoring balance to the oil market. The attacks helped push compliance from the 11 members taking part in the OPEC+ deal to 242% during September from 145% the previous month. Further supporting the compliance effort, Nigeria was assigned higher supply targets at the July OPEC meeting. Ecuador announced it will quit OPEC as of January 2020 to release itself from supply restrictions. After holding steady in September, Ecuador's production slipped in early October after oil fields were shut due to unrest that is sweeping the country. Iraq is also in the grip of anti-government protests that have yet to take a toll on production.

The Saudi outage pushed OPEC crude oil output down 3.4 mb/d versus September 2018. Supply from Saudi Arabia was 1.5 mb/d below a year ago, while output in Venezuela fell 670 kb/d y-o-y. Iranian production was unchanged m-o-m in September, with supply down 1.3 mb/d y-o-y. Nigeria, Iraq and Libya between them pumped 260 kb/d more than a year ago.

As Saudi Arabia quickly assured customers of its ability to meet their volume requirements for September, its Gulf neighbours held production broadly steady. Supply from the **UAE** inched up

10 kb/d to 3.07 mb/d, up 20 kb/d on September 2018. Production in **Kuwait** edged up 20 kb/d to 2.65 mb/d, but remained down 130 kb/d on the previous year.

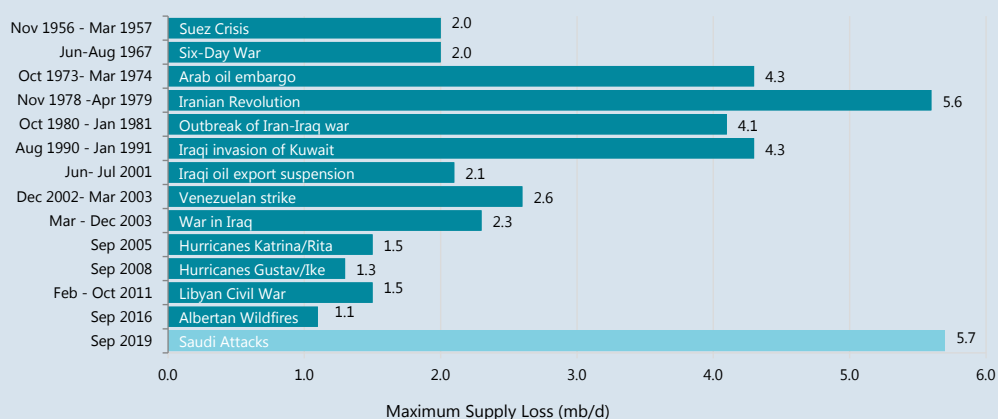
Box 4. Saudi bounces back fast

On 14 September Saudi Arabia suffered serious attacks on its oil facilities that initially shut in 5.7 mb/d, or more than half, of its production. It took just 11 days to restore the lost output. Even so, average Saudi crude supply in September plunged 770 kb/d to 9.02 mb/d, the lowest level since 2011. When oil markets reopened on 16 September, the price of Brent crude briefly spiked by nearly 20% to \$71/bbl, one of the biggest jumps on record.

The kingdom's priority was to reassure customers and the wider oil market that it would continue to meet its commercial obligations. This discouraged customers from finding alternative supplies and reduced pressure for an emergency stocks release. By the end of September, output had reached nearly 10 mb/d, the target set soon after the attacks, and a level that is expected to be sustained through October.

The strikes against Saudi oil infrastructure were the latest in a series of incidents in the Gulf region, but by far the most serious. They immediately shut down 4.5 mb/d of capacity at Abqaiq, the largest crude processing facility of its kind in the world, and 1.2 mb/d in Khurais, the country's second largest oil field. In addition to lost crude supply, NGLs and condensates were also shut in, resulting in a 200 kb/d m-o-m drop versus August.

The crude oil outage was the largest ever *volume* loss in one incident in modern history and represented about 6% of global oil supply.



Saudi officials say production *capacity* has recovered to 11 mb/d and they expect a return to the pre-attack level of 12 mb/d by the end of November. A full restoration could, however, prove ambitious given the amount of time required to source and install equipment. Abqaiq had the

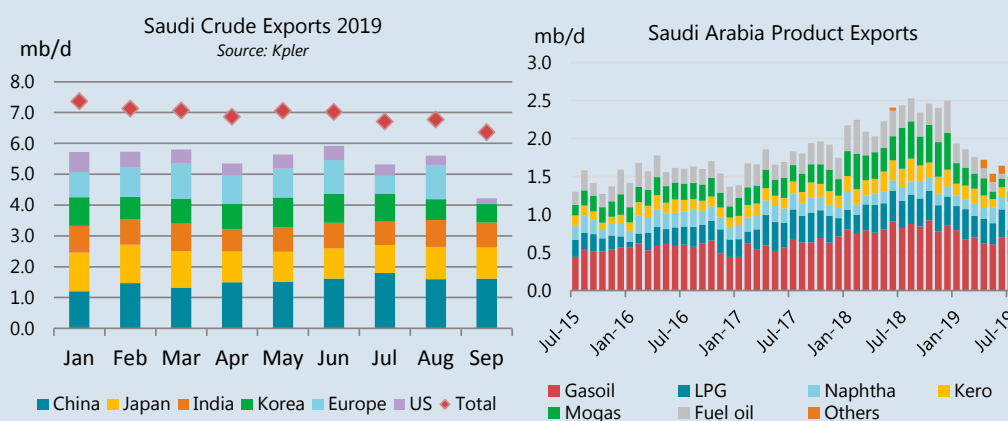
capacity to process up to 7 mb/d of Arab Extra Light and Arab Light crude, which are sent to export terminals on the Gulf or the Red Sea coast via the East-West pipeline. Khurais has the ability to produce up to 1.5 mb/d.

To keep its customers supplied, Aramco drew down its stocks, although it is not entirely clear how much inventory there actually is. According to JODI data, Saudi inventories at end-July were 180 mb, without specifying how much was held at home, abroad or how much is pipeline fill. Aramco is known to hold stocks in Okinawa, Rotterdam and at Sidi Kerir in Egypt. At a press conference soon after the attacks, the company said it held more than 60 mb of oil stocks on land in Saudi Arabia. According to data company *Kayrros*, Aramco drew nearly 10 mb of oil from storage in the two days after the incidents but this has since been partly replaced.

Exports from Saudi oil terminals averaged 6.37 mb/d in September, according to *Kpler* data, down 410 kb/d on August. However, Aramco is likely to have covered some of that decline from overseas storage. With a substantial amount of Arab Light production initially offline, Aramco increased the share of medium and heavy crudes in its exports and delayed some crude and product deliveries.

Saudi exports to China, its single biggest customer, actually rose 20 kb/d to 1.6 mb/d in September, while shipments to Korea decreased 60 kb/d to 610 kb/d. Loadings to Japan edged down 40 kb/d m-o-m to 1 mb/d, liftings to India dropped 65 kb/d to 810 kb/d and to Europe they tumbled 610 kb/d to 470 kb/d. Saudi exports to the US, on the decline for many years due to the shale boom, were just 175 kb/d in September. The final destination of some September shipments is not yet clear.

The attack on Abqaiq also had a significant impact on domestic refinery operations, which initially forced a reduction in runs. Operations were reportedly halted at the Ras Tanura condensate splitter. Bahrain's Sitra refinery, which normally processes 200 kb/d of Saudi Arab Medium crude, had to run at reduced capacity for several days after the attacks when deliveries fell to zero.



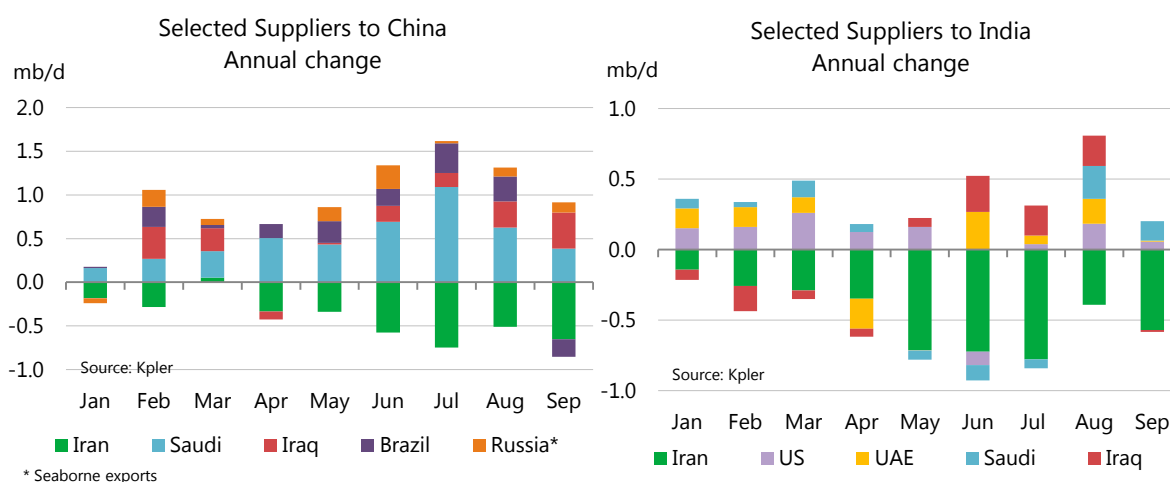
Saudi Arabian NGL production was also affected which impacted LPG exports to major customers such as India, Japan, Korea and China. It is often overlooked how important the Saudi refining industry is both as the main supplier of a 3 mb/d domestic market and a net exporter of products to the tune of about 1 mb/d. For example, it supplies about a quarter of Europe's imports of diesel and kerosene. In the aftermath of the attacks Aramco became a substantial buyer of refined products, especially gasoline and naphtha, to compensate for the domestic shortage and to maintain deliveries to international customers.

The attacks briefly removed nearly all the world's spare capacity available to make up for a major supply disruption. Before, OPEC's spare capacity was 3.2 mb/d, with Saudi Arabia holding 71% of the total. Only the UAE, Kuwait and Iraq have any significant spare. Iran's unused production capacity is not available due to sanctions, nor is the 58 mb of its oil, mostly condensates, stored at sea. It is assumed that non-OPEC countries produce at full capacity; the only meaningful exception being Russia which has cut output under the OPEC+ agreement.

Crude supply in **Iran** was unchanged m-o-m at 2.19 mb/d, a three-decade low. The National Iranian Oil Co continued to build inventories on land, but floating storage, thought to be mostly condensates, held steady. According to *EA Gibson* data, Iran holds oil on 26 VLCCs and three Suezmax tankers. The assumed volume is close to the 2016 historic high.

Shipments of oil to world markets rose 70 kb/d to 260 kb/d, according to *Kpler* data, although the destination of those barrels is unclear. By comparison, exports were running at 1.8 mb/d in September 2018. The US put further pressure on Iran by sanctioning six Chinese entities at the end of September for trading Iranian oil.

With production and exports running more than 1 mb/d below a year ago, other producers have stepped in to supply Iran's top two customers, China and India. Saudi Arabia has increased shipments to China by 500 kb/d vs 2018, more than making up for Iran's loss of 400 kb/d. Iraq (+180 kb/d), Brazil (+150 kb/d) and Russia (+100 kb/d) have also increased deliveries. The decline in Iranian exports is steeper to India (-470 kb/d), with the US and UAE raising shipments by 120 kb/d and 80 kb/d, respectively.



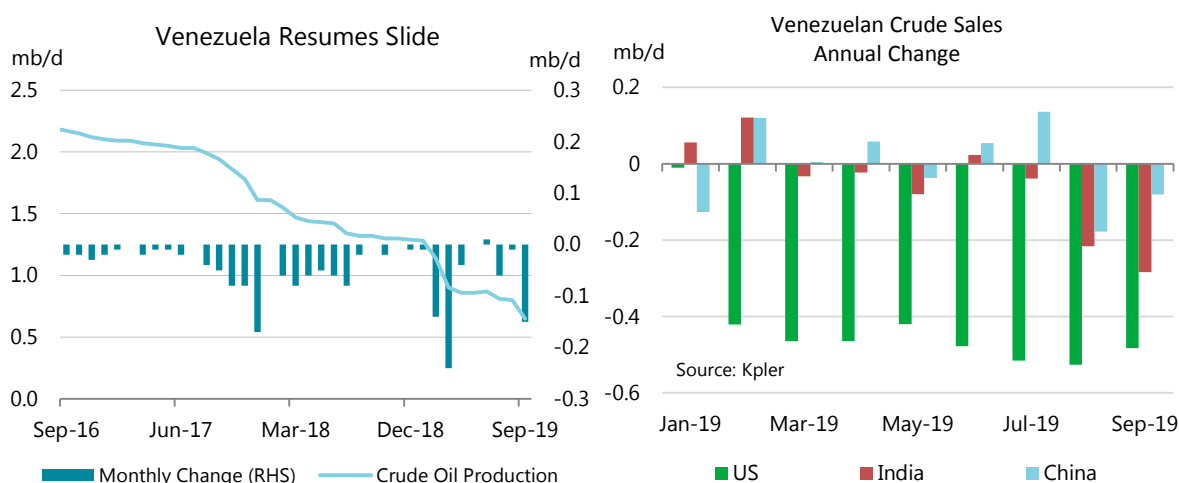
Output in **Iraq**, including the Kurdistan Regional Government (KRG), eased 40 kb/d from a record high in August. At 4.77 mb/d, output was up 80 kb/d on September 2018. So far, exports and production have been unaffected by anti-government protests that started in Baghdad in early October and swiftly spread to the south, including the oil heartland of Basra. During September, total exports fell 50 kb/d to 3.96 mb/d. Exports from the south, including trucked volumes from Qayara, eased 30 kb/d to 3.5 mb/d. Oil sales from the north via Kurdistan dipped 20 kb/d to around 500 kb/d.

To support its capacity-building efforts, Iraq has signed an initial agreement with Dutch company Boskalis to build an artificial island in the Gulf to raise export capacity by 3 mb/d from around 3.6 mb/d and boost storage capacity by 6 mb from an existing 10 mb. Baghdad has also sealed a contract for a drilling program at the Nasiriya oil field that aims to raise output by 40 kb/d over the next two years.

Output in **Nigeria** slipped 30 kb/d in September to 1.78 mb/d, still up 130 kb/d y-o-y. Closure of the Nembe Creek Trunk Line disrupted exports of Bonny Light. Supply in **Angola** crept up 40 kb/d in September to 1.38 mb/d, but was 120 kb/d below a year ago. Output has been on the decline for several years due to operational issues and a lack of investment. Production in **Gabon** eased 20 kb/d to 190 kb/d. **Congo** saw steady supply at 340 kb/d, while output in **Equatorial Guinea** held at 110 kb/d.

Crude supply in **Libya** rose 50 kb/d to 1.11 mb/d after the core El Sharara oil field recovered from sabotage during the summer. Storage capacity at the eastern Ras Lanuf oil terminal rose following repairs, helping to sustain a steady flow of exports. Militants damaged the 220 kb/d terminal and destroyed a number of storage tanks at the start of 2016. Production in **Algeria** was unchanged m-o-m at 1.02 mb/d.

Venezuelan output slumped 150 kb/d in September to just 650 kb/d, after five months of slower declines. Further losses are likely in the months ahead due to ongoing operational difficulties and the pressure of sanctions. Petroleos de Venezuela (PDVSA) was forced to suspend blending operations and cut production as it struggles with a diminishing list of customers and ongoing refinery issues that have severely reduced domestic runs (see *Refining*). Blending operations reportedly were halted briefly in early October at Petrosinovensa, a PDVSA/China National Petroleum Corp (CNPC) joint venture and have been suspended since September at Petropiar, a PDVSA/Chevron partnership.



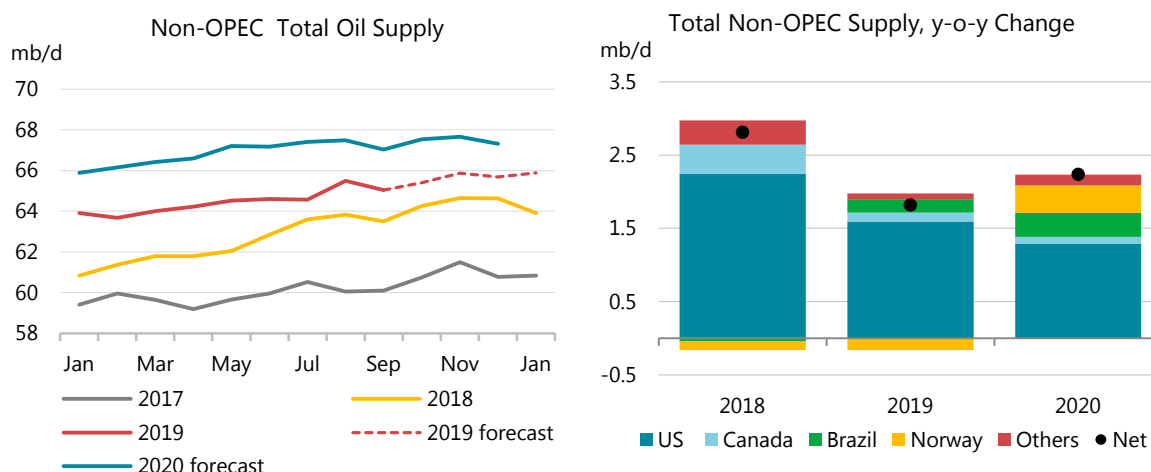
With sanctions discouraging buyers and shippers alike, exports sank 400 kb/d during September to just 400 kb/d. Sales to the US ground to a halt in February, shipments to India are sharply lower and deliveries to China have fallen after CNPC reportedly halted shipments.

Seeking to boost revenue through higher output, **Ecuador** has announced its departure from OPEC as of January 2020. Production was steady in September at 550 kb/d, but could slip in October as the worst unrest in years affects operations. Petroamazonas halted operations at several oil fields in early October due to protests against austerity measures, notably the

suppression of fuel price subsidies. Ecuador joined OPEC in 1973, but withdrew from 1992 to 2007. Its departure follows Qatar, which left OPEC at the start of 2019.

Non-OPEC supply

Non-OPEC supply eased 400 kb/d m-o-m in September, partly reversing August's stronger than expected 930 kb/d monthly gain. A seasonal decline in biofuels supply and lower production in Canada, Norway, Russia and Kazakhstan made up most of the September decline. Higher US oil output provided a partial offset.



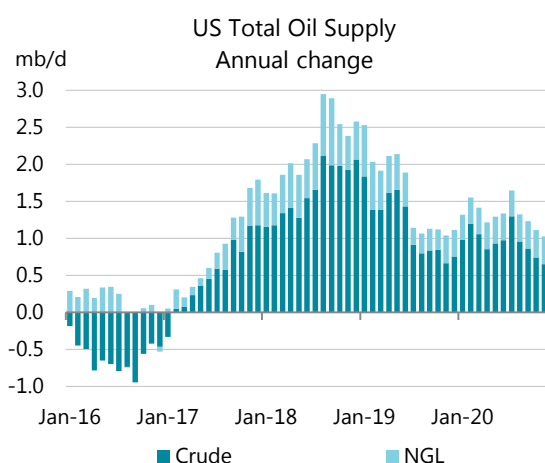
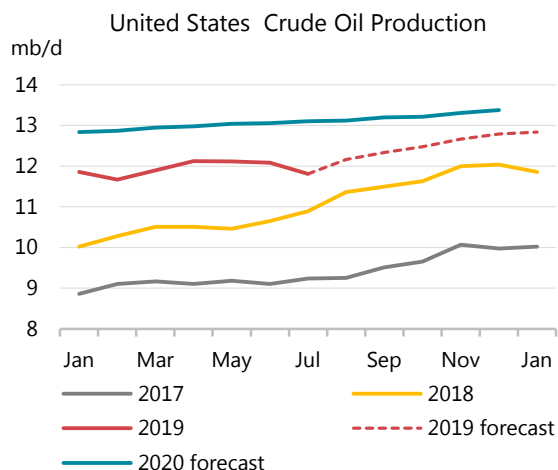
At just over 65 mb/d, total non-OPEC oil supply was nevertheless 1.6 mb/d higher than a year ago. Annual growth came primarily from the US - despite a slowdown in activity since the start of the year - and from Brazil where output has surged in recent months on the start-up of new production units. Additional gains came from biofuels and LNG projects in Australia.

Non-OPEC Supply											
(million barrels per day)											
	2018	1Q19	2Q19	3Q19	4Q19	2019	1Q20	2Q20	3Q20	4Q20	2020
Americas	22.99	24.00	24.48	24.50	25.19	24.55	25.60	25.78	25.95	26.29	25.91
Europe	3.47	3.47	3.20	3.12	3.42	3.30	3.62	3.67	3.63	3.82	3.68
Asia Oceania	0.41	0.43	0.48	0.52	0.56	0.50	0.59	0.60	0.62	0.61	0.61
Total OECD	26.9	27.9	28.2	28.1	29.2	28.3	29.8	30.1	30.2	30.7	30.2
Former USSR	14.56	14.81	14.41	14.59	14.59	14.60	14.65	14.63	14.57	14.61	14.61
Europe	0.12	0.12	0.12	0.12	0.12	0.12	0.11	0.11	0.11	0.11	0.11
China	3.85	3.92	3.95	3.92	3.91	3.93	3.92	3.94	3.91	3.92	3.92
Other Asia	3.36	3.33	3.26	3.16	3.19	3.23	3.17	3.14	3.12	3.09	3.13
Latin America	4.52	4.51	4.58	4.88	5.01	4.75	5.03	5.08	5.10	5.11	5.08
Middle East	3.27	3.26	3.27	3.27	3.26	3.27	3.27	3.27	3.27	3.27	3.27
Africa	1.44	1.44	1.44	1.44	1.44	1.44	1.46	1.46	1.47	1.47	1.46
Total Non-OECD	31.1	31.4	31.0	31.4	31.5	31.3	31.6	31.6	31.5	31.6	31.6
Processing Gains	2.32	2.35	2.35	2.35	2.35	2.35	2.38	2.38	2.38	2.38	2.38
Global Biofuels	2.62	2.21	2.90	3.18	2.62	2.73	2.36	2.93	3.20	2.82	2.83
Total Non-OPEC	62.9	63.9	64.4	65.1	65.7	64.8	66.2	67.0	67.3	67.5	67.0
Annual Chg (mb/d)	2.81	2.53	2.22	1.41	1.15	1.82	2.29	2.55	2.26	1.83	2.23
Changes from last OMR (mb/d)	0.00	0.00	0.01	-0.08	-0.01	-0.02	-0.02	-0.06	-0.09	-0.05	-0.05

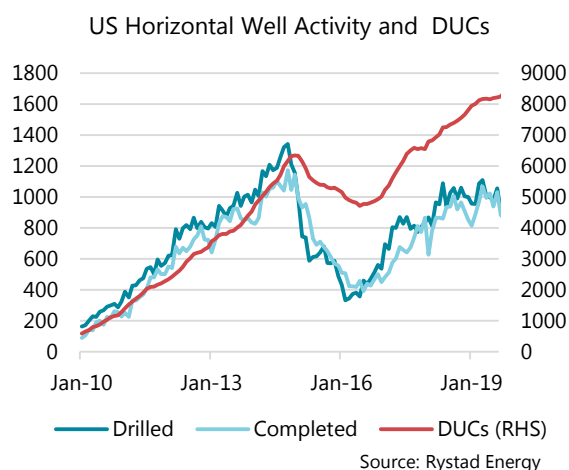
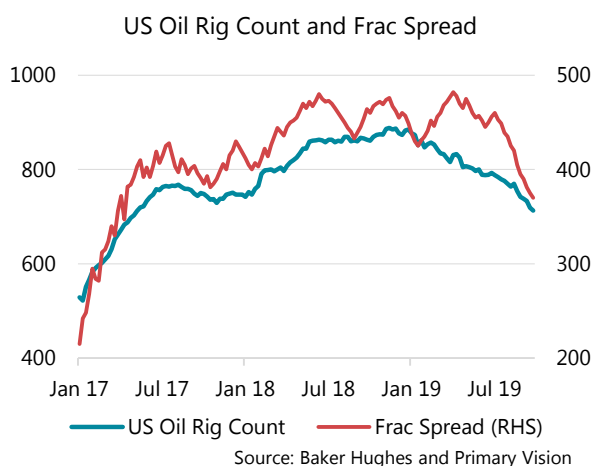
For 2019 as a whole, non-OPEC supply growth is largely unchanged at 1.8 mb/d, as a slightly weaker outlook for the US is offset by improved expectations for Australia and China. The US nevertheless continues to dominate growth, rising 1.6 mb/d on average, or 87%, of the total.

While the pace of the US expansion eases further in 2020, total non-OPEC supply growth accelerates to 2.2 mb/d, with significant gains also coming from Brazil and Norway, where the start-up of the giant Johan Sverdrup field in early October will underpin a 370 kb/d increase next year.

US oil production dropped by 400 kb/d in July, as Hurricane Barry slashed offshore output and NGL supply. At 16.6 mb/d, total output was still 1.1 mb/d higher than a year earlier, the lowest annual increase in nearly two years. Crude oil production fell by 275 kb/d m-o-m, to 11.8 mb/d, 915 kb/d higher than a year ago, led by a 330 kb/d decline in the Gulf of Mexico.



Onshore, a slowdown in activity since the start of the year has held output from the Lower-48 relatively steady, with July production up only 140 kb/d compared with end-2018 levels. Over the comparable period in 2018, production rose by 740 kb/d with even stronger additional gains of 1 mb/d recorded for the remainder of the year. Growth slowed in 2019 as capital discipline has become a higher priority for producers with investors demanding better returns.



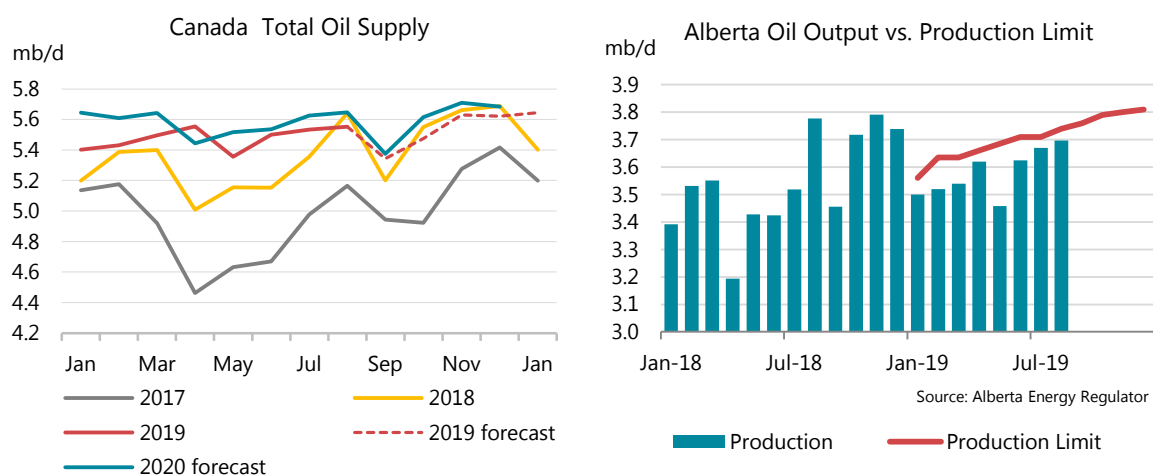
Pure-play shale producers and independents had already flagged a 6% decline in upstream spending this year in their initial 2019 guidance. While IOCs are increasingly active in the shale patch, a marked slowdown has been seen in US drilling and completion activity levels since the start of the year. Operators shed another 29 rigs during September so that by end-month, there were 172 fewer active rigs than at end-2018. The frac spread count has declined 23% since March, to a 2.5-year low.

A survey by the Federal Reserve Bank of Dallas shows that activity in the oil and gas sector continued to deteriorate in 3Q19. Oilfield services firms drove the decline, with a slump in their business activity index suggesting a large contraction in equipment utilisation.

According to Rystad Energy, the number of horizontal well completions remained healthy at around 1 030 per month on average in 2Q19, compared with 891 during 1Q19. Completions have caught up with the number of wells drilled so that the inventory of drilled but uncompleted wells (DUCs) has stabilised at around 8 100.

US production is forecast to continue rising through to the end of the year and in 2020, albeit at a slightly slower pace than previously expected. Total oil production is now seen growing by 1.6 mb/d in 2019 and 1.3 mb/d in 2020, with crude accounting for 1.2 mb/d and 0.9 mb/d, respectively.

Canadian oil supply held largely steady in August at 5.6 mb/d as higher output of raw bitumen was offset by lower production of synthetic crude. Total Albertan oil output rose by 40 kb/d m-o-m to 4.07 mb/d, 70 kb/d below a year ago and down 50 kb/d from December 2018. Supply has risen steadily since January, with conventional crude oil and total oil sands output reaching 3.7 mb/d in August. Further relaxation of the cuts mandated by the Albertan government will allow production to increase by 20 kb/d in September, 30 kb/d in October and 10 kb/d in both November and December. By the end of the year, upstream operators can effectively return to the record levels seen at the end of 2018.



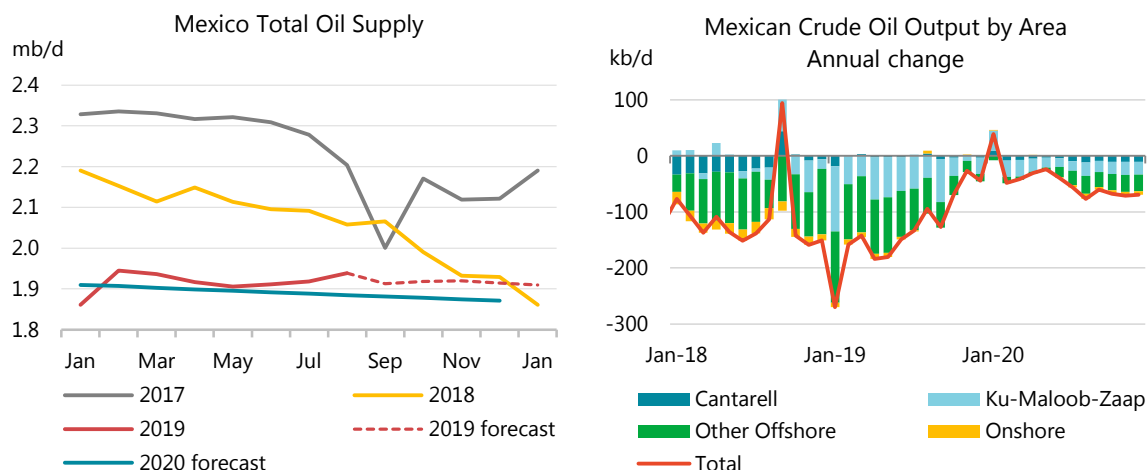
Additional pipeline pumping capacity and increased access to rail cars compared with end-2018 should allow crude to move to market and support prices. Volumes of crude oil shipped by rail rebounded to 313 kb/d in July, only 40 kb/d below the record high reached in December 2018, assisted by Alberta leasing 4 400 rail cars.

At the same time, the differential between Western Canada Select and WTI in Cushing has seen only a marginal increase. In early October, the discount of WCS to WTI Cushing was \$13/bbl, compared to \$50/bbl a year ago.

Offshore Canada, the Hibernia field restarted production at the end of September having been shut down for best part of two months. The field was closed following a leak in mid-July, and then following a restart was shut again after another leak during August.

The relaxation of Alberta's curtailment and increased pipeline and rail capacity should allow Canadian oil output to expand by 100 kb/d next year, following a gain of 125 kb/d in 2019.

Mexico's efforts to halt oil production declines and return to growth are starting to have an impact, with output essentially stable for the past seven months. In August, total oil supply rose 20 kb/d, to 1.94 mb/d, with minor gains from the Zaap and Xanab fields. Year-on-year declines eased to 120 kb/d compared with 220 kb/d on average during 1H19 and 330 kb/d in January. An improvement in operations at the Xanab field and increased production of heavy oil from the Balam field contributed to the better performance.

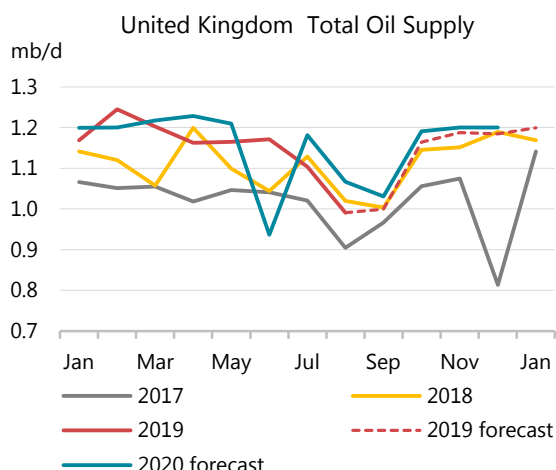
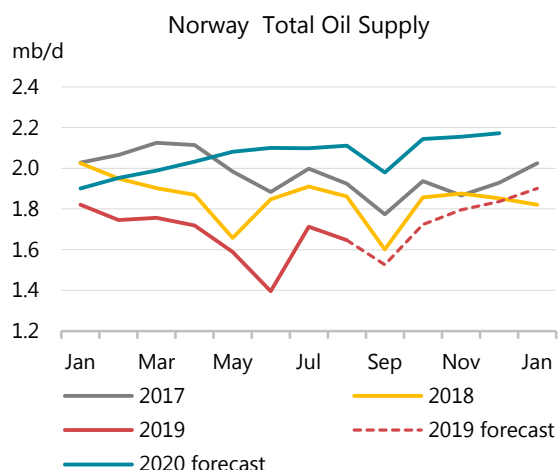


In September, Pemex won approval for another priority field development, the 16th of 20 fast-tracked projects given the go-ahead. The Hok field will receive investment of \$269.2 million to develop 31.1 mb of oil and 56.22 trillion cubic feet of natural gas. The peak production from the 16 plans approved so far is projected to be around 300 kb/d and 890 million cubic feet of natural gas. The total investment amounts to \$7.7 billion and anticipates drilling 113 wells.

Preliminary data from the Petroleum Directorate showed that **Norway's** oil production slid to 1.6 mb/d in August, down 215 kb/d y-o-y, as lower gas production weighed on NGLs. In September, it is thought that seasonal maintenance reduced supplies by a further 120 kb/d m-o-m.

On 17 September, Equinor announced first production from the Utgard gas-condensate field which at its peak will add around 40 kboe/d, of which 10 kb/d are liquids. More significantly, on 5 October Equinor brought the much anticipated Johan Sverdrup field online two months ahead of schedule. Phase I of the project is expected to add 440 kb/d of oil production by mid-2020, which will account for over 20% of total Norwegian supply. The initial loading programme suggested that flows in October could average 225 kb/d but most of these cargoes have been delayed to November. However, if the current loading schedule is achieved it implies production at over 300 kb/d on average in November.

Meanwhile, Equinor announced that the Martin Linge project, originally due online in 1Q20, had slipped to 3Q20 and that costs had risen by 19% due to design changes. Martin Linge is expected to add 80 kboe/d, with up to half of this oil. Equinor's Njord field re-development project is expected to see production resume on schedule in 4Q20 after a four-year closure. However, the project's costs have increased by 22%. On 27 September, ExxonMobil announced that it was withdrawing from the North Sea and had agreed to sell its remaining assets to Eni-backed Var Energi. The deal covers non-operating interests in over 20 fields that produced around 150 kb/d so far in 2019 and will make Var Energi Norway's second largest E&P company.

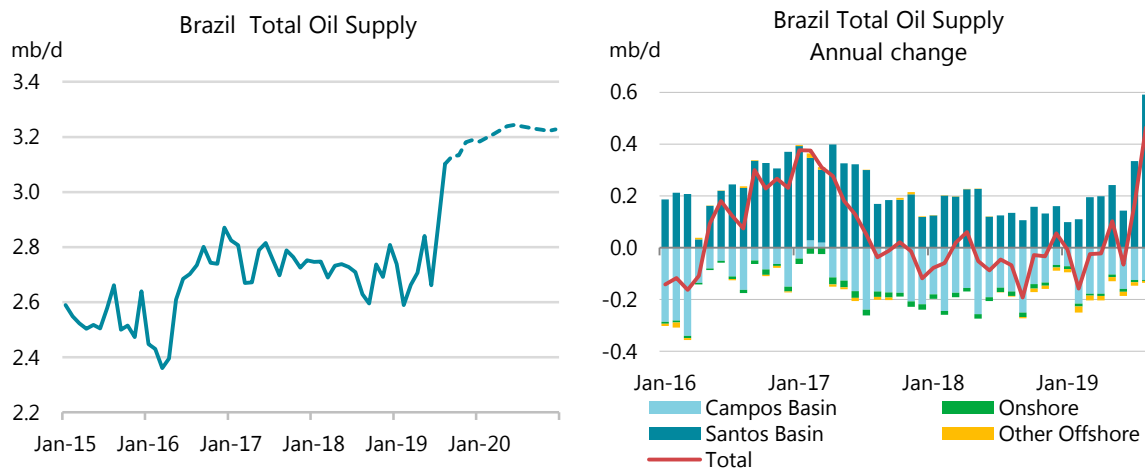


Seasonal maintenance weighed on **UK** oil production in August and September, keeping total output just below 1 mb/d and similar to year-ago levels. Loading programmes for October and November suggest that output will bounce back, with combined flows of Brent, Forties, Oseberg, Ekofisk and Troll rising to over 1 mb/d in November, the highest in 18 months. However, on 5 October, production from the UK's largest field, Buzzard, was halted when the operator CNOOC discovered repair works were needed. Data from Forties pipeline operator INEOS indicated reduced Buzzard output of around 90 kb/d in August and September, but an expected return to the usual levels of around 120 kb/d in October may not be achieved.

Following on from first production in August, shipments of crude from Equinor's Mariner field began in early September. Mariner is the UK's only significant start-up in 2019 and it is expected to reach plateau production of 55 kb/d in 1Q20. Combined with rising flows from the West of Shetlands projects that started in 2017/18 this is enough to offset field declines elsewhere. UK output will grow by roughly 35 kb/d y-o-y in 2019 and by 15 kb/d in 2020.

Brazilian oil production surged by 220 kb/d in August to a record 3.1 mb/d. Production increases at the Lula and Búzios pre-salt fields underpinned the gain. Increased flows from two new floating production, storage and offloading units (FPSO), lifted production at Lula by 100 kb/d m-o-m and 285 kb/d y-o-y, to 1.09 mb/d. Búzios production increased by 50 kb/d m-o-m to 340 kb/d, with output now flowing from four FPSOs. Output from the Campos Basin rose by 40 kb/d m-o-m to 1.05 mb/d, but was 125 kb/d below a year earlier. In all, Brazilian oil supply in August was 470 kb/d higher than a year ago.

On 16 September, Petrobras reported that the P-68 FPSO that will be installed at the Berbigão and Sururu fields had finally been completed, a year behind schedule. Production of up to 150 kb/d is expected to start in 4Q19. The two fields are located in the Santos Basin and are operated by Petrobras (42.5%) in partnership with Shell (25%), Total (22.5%) and the Galp-Sinopec joint venture company Petrogal Brazil (10%). The start-up of the fourth FPSO this year should support an increase in Brazil's supply growth from 190 kb/d this year to 320 kb/d in 2020.

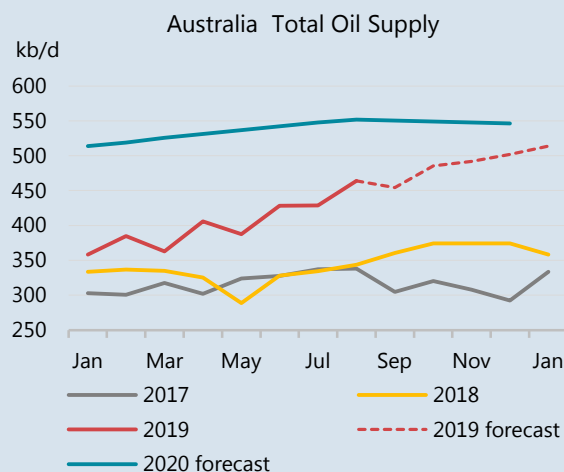


Box 5. LNG projects lift Australian oil supply

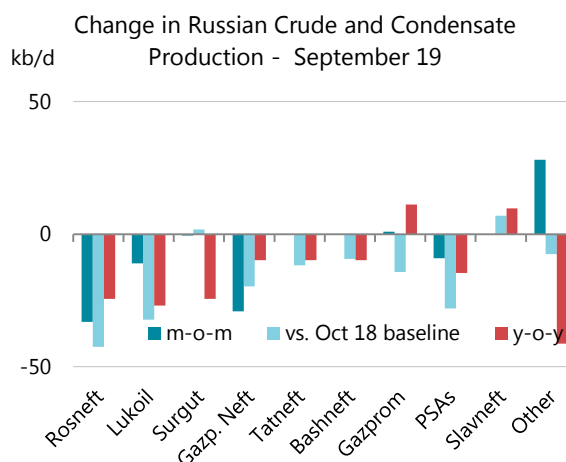
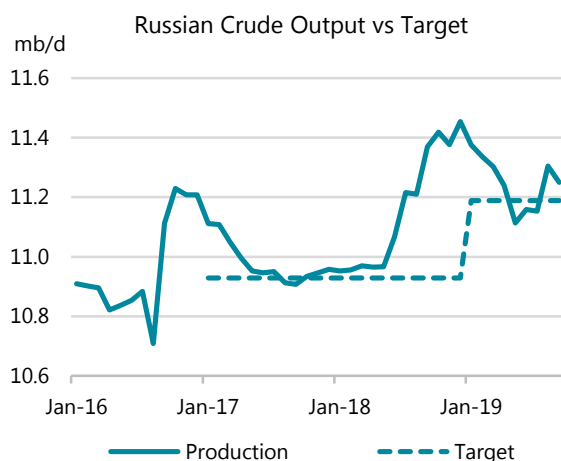
In recent years condensate and gas liquids associated with new LNG projects has boosted Australian output. Government data for July show that condensate output hit a record high of 243 kb/d and likely rose a further 23 kb/d in August. INPEX announced that their Ichthy's LNG project was operating at 80% capacity in August, less than one year after start-up. In addition, condensate flows associated with Chevron's Wheatstone LNG project have ramped up to around 40 kb/d as debottlenecking has allowed it to operate above nameplate capacity and thanks to high liquids recovery from the Brunello field. Condensate and NGLs from Shell's Prelude floating LNG project are also on the rise, along with condensate from Pluto LNG which was also recently debottlenecked by ExxonMobil. In September, condensate growth faltered as maintenance at North West Shelf LNG facilities took place but should pick up again in 4Q19.

Meanwhile, Australia's crude production fell to 122 kb/d in July, the lowest in 49 years. However new investments onshore and offshore will see declines stabilise in 2019 and a return to growth in 2020. In late August, Woodside brought the Greater Enfield project online. It is located in the Carnarvon basin offshore Western Australia and will add

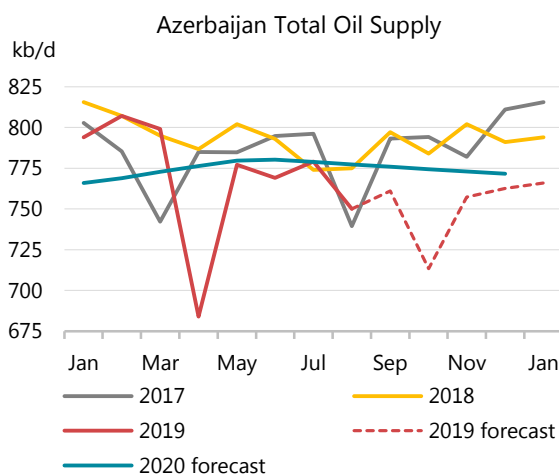
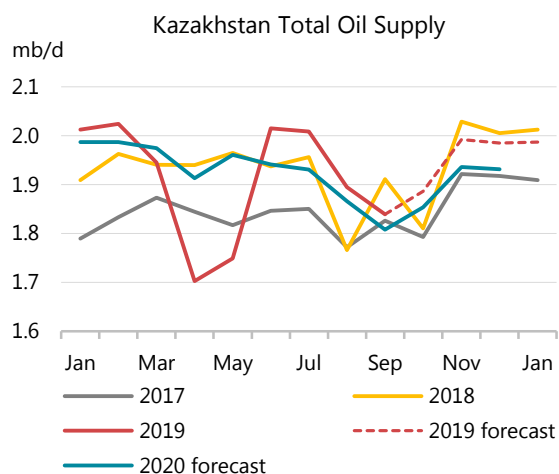
up to 40 kb/d when the plateau is reached next year, making it the country's largest producing oil field. Onshore, Beach Energy announced further investment in its Western Flank oil project in the Cooper Basin that will support growth this year and next. Following a successful appraisal campaign, Santos announced that it will take a development decision on its Dorado project offshore Western Australia towards the end of 2019. The field is Australia's largest discovery in over two decades and could eventually add 50 kb/d of output. Overall, Australian oil production is on track to rise by roughly 90 kb/d in 2019 and 110 kb/d in 2020.



Russian crude and condensate production eased by 55 kb/d in September to 11.25 mb/d but remained above the target set under the OPEC+ output deal under which Russia agreed to curb supply by 228 kb/d from an October 2018 high of 11.4 mb/d (11.7 mb/d including NGLs). The decline in September stemmed from Rosneft and Gazpromneft, which saw production fall by 33 kb/d and 29 kb/d, respectively. Compared to a year ago, production was down 120 kb/d and 169 kb/d below its October 2018 baseline.



In early October, Deputy Energy Minister Pavel Sorokin said Russia has spare oil production capacity of at least 500 kb/d that it can bring on stream within three months. Meanwhile, Energy Minister Alexander Novak warned that if Russia does not change its tax regime and encourage new field development in West Siberia and the Arctic it will not be able to maintain the current level of production in the longer run. He proposes a reform that could raise profit margins by \$3-\$5 a barrel, make Russian oil more competitive and bring into production up to 10 billion tonnes (73 billion barrels) of new reserves. The Finance Ministry has repeatedly opposed lowering taxes on the oil industry.

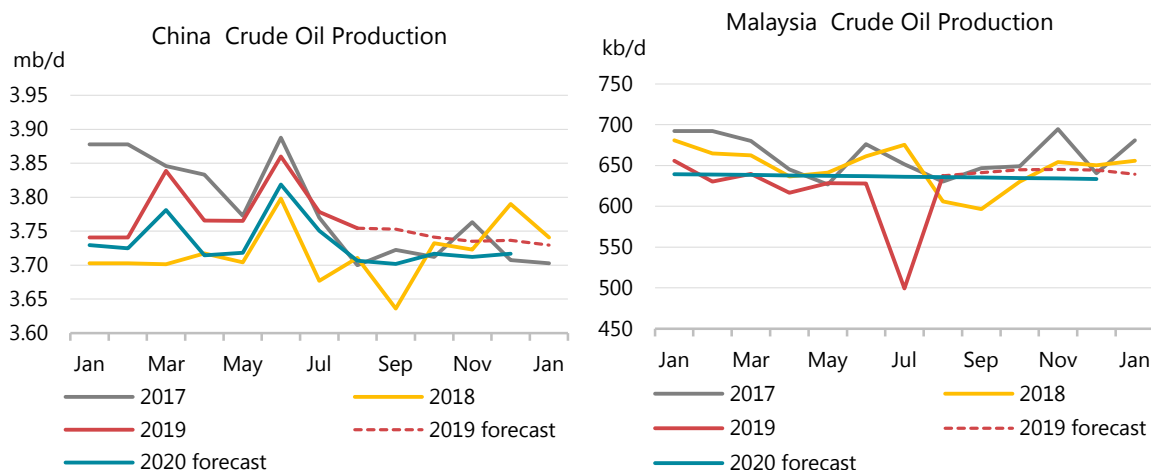


Kazakhstan's oil production fell by 115 kb/d in August to 1.89 mb/d, as maintenance curbed output from the Tengiz field. Preliminary data for September suggest production eased by a further 55 kb/d due to work at the Karachaganak field. CPC loadings data for the month show Karachaganak shipments down 104 kb/d m-o-m to 137 kb/d, while Tengiz flows held steady at around 580 kb/d. During the first half of 2019, Tengiz exports averaged 650 kb/d. Shipments of Kashagan crude inched higher to 386 kb/d, from 362 kb/d in August. **Azerbaijan's** oil production

fell by 29 kb/d in August to 750 kb/d, including 63 kb/d of condensate. Output is expected to decline in October due to planned maintenance at the BP-operated Western Chirag platform in the Caspian Sea.

In the April edition of this Report we highlighted that a significant increase in upstream investment by **China's** largest producers had the potential to reverse long-standing output declines (see *China: Ready to reverse declines?* in April 2019 *Oil Market Report*). Six months later, it seems clear that those investments are bearing fruit.

China's crude oil supply eased by 24 kb/d in August, as the passing of Typhon Lekima forced the shut-in of some production. At 3.75 mb/d, output was nevertheless 44 kb/d higher than a year earlier, marking the ninth consecutive month of year-on-year gains. The improvement is the result of a significant increase in spending by the country's largest producers. PetroChina, Sinopec and CNOOC boosted upstream investments by a combined 58 billion yuan (\$10.5 billion) last year, and plan a further 62 billion (\$8.3 billion) increase this year, in response to President Xi's call to improve national security by boosting domestic production and reserves. As producers seem to have followed through on their pledges, we have revised up our expectations for the year by 10 kb/d and a further 50 kb/d for 2020. Crude output is now seen rising 50 kb/d on average, a marked improvement on annual declines of 310 kb/d, 120 kb/d and 70 kb/d in 2016, 2017 and 2018, respectively. A marginal decline of 35 kb/d is expected for 2020.

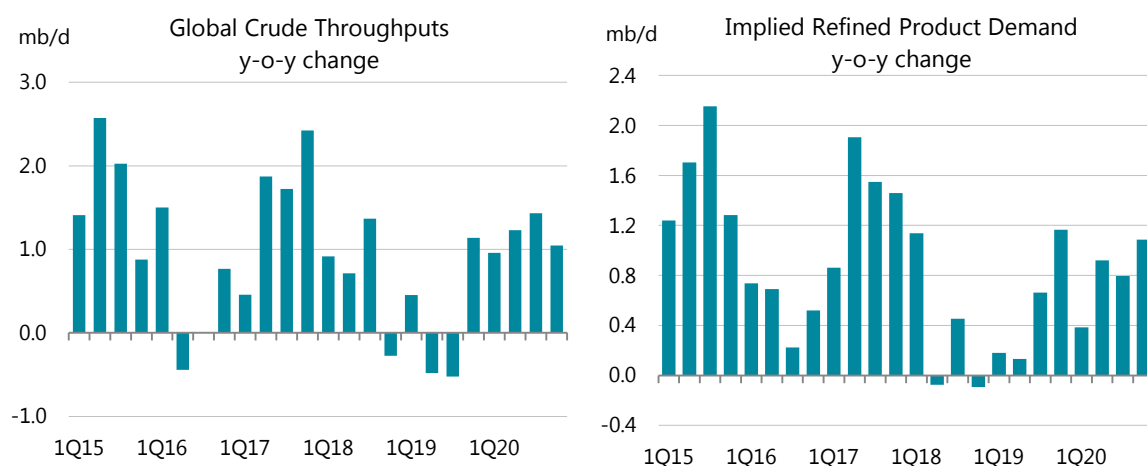


Elsewhere in Asia, oil output from non-OECD countries continues to decline. So far this year, output has fallen by 130 kb/d on average, or 4%. With India, Indonesia, Malaysia, Vietnam and Thailand all recording steep falls. In **Malaysia**, crude oil production slumped to 499 kb/d in July, the lowest level since 2011, as Shell carried out maintenance at its Gumusut-Kakap field. Along with the Malikai field, oil from Gumusut-Kakap makes up the Kimanis crude grade.

Refining

Overview

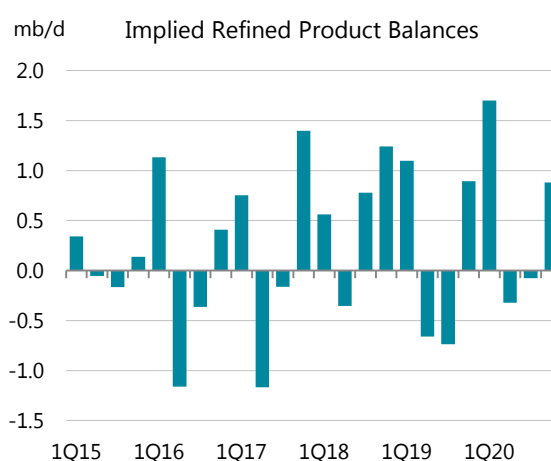
Global refining throughput in 3Q19 fell 0.5 mb/d year-on-year (y-o-y). A second consecutive quarter of annual declines usually is a symptom of wider economic turmoil, but after five quarters of almost non-existent growth, demand for refined products appears to have picked up in 3Q19 with the estimate partly underpinned by actual data.

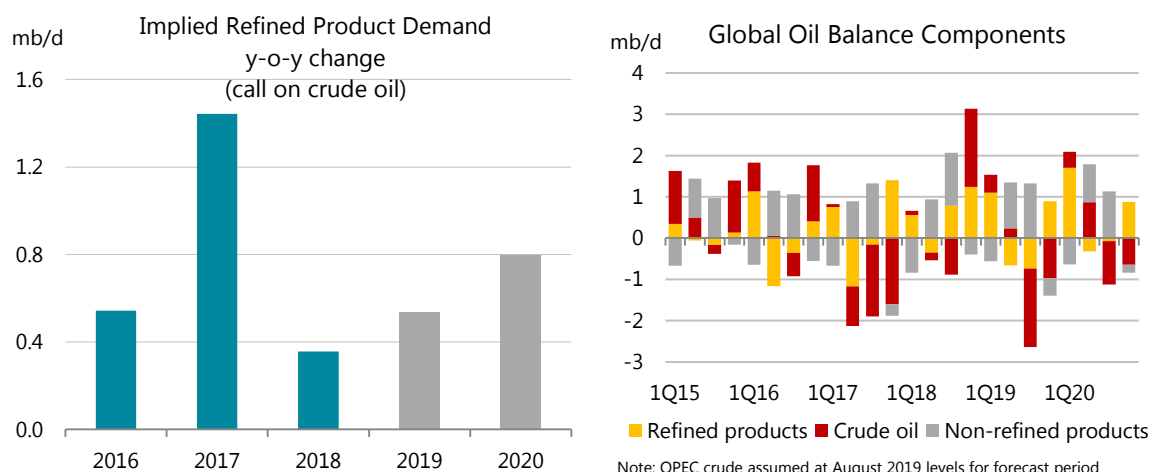


The downward revision to our 3Q19 throughput estimate was largely due to low activity levels in Saudi Arabia, based on July actual data and on the estimated impact of the outages after the 14 September attacks. Operational outages were also seen in the US and Europe. This autumn's seasonal maintenance schedules shows more work planned for September, rather than the usual October peak. Refining margins increased quarter-on-quarter (q-o-q), especially in Europe and Singapore, supporting our implied balance view of a counter-seasonal draw in refined products in 3Q19.

Global refinery throughput is expected to return to growth in 4Q19, and stay elevated throughout 2020, as refined products demand growth accelerates to 0.8 mb/d, the highest rate since 2017. The expected crude oil oversupply, partly due to continued US expansion and as Brazil and Norway boost output by substantial volumes, could provide additional support for refining margins, along with the production of compliant

fuels to meet the new IMO emissions specifications. There is, however, a downside risk to our 1Q20 refining throughput forecast, which implies an overall refined product stock build of over 1.5 mb/d, which could be justified by the special circumstances of the start of the IMO 2020 implementation.





The breakdown of our headline balances into crude oil, refined products and non-refined components shows the strong seasonality of crude-based demand (crude oil plus refined products). In 4Q19 and 1Q20, most of the inventory draws come from non-refined components such as LPG used in heating and biofuels from the summer harvest blended into gasoline.

Global Refinery Crude Throughput ¹											
	(million barrels per day)										
	1Q19	2Q19	Jul 19	Aug 19	Sep 19	3Q19	Oct 19	Nov 19	4Q19	2019	2020
Americas	18.7	19.2	19.8	20.2	19.3	19.8	19.3	20.0	19.8	19.4	19.7
Europe	12.3	11.9	12.7	12.6	12.0	12.5	12.2	12.5	12.5	12.3	12.2
Asia Oceania	7.1	6.6	6.8	7.0	6.9	6.9	6.6	6.9	6.9	6.9	6.9
Total OECD	38.1	37.8	39.3	39.8	38.2	39.1	38.1	39.4	39.1	38.5	38.8
FSU	6.8	6.5	7.0	6.8	6.7	6.9	6.6	6.8	6.8	6.7	6.7
Non-OECD Europe	0.5	0.5	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6
China	12.7	12.8	12.4	12.6	12.8	12.6	12.8	12.8	12.8	12.7	12.9
Other Asia	10.8	10.4	10.6	10.7	10.5	10.6	10.5	10.7	10.8	10.6	11.1
Latin America	3.1	3.2	3.2	3.3	3.2	3.2	3.2	3.2	3.2	3.2	3.1
Middle East	7.9	7.8	7.8	7.9	7.7	7.8	7.7	8.1	8.0	7.9	8.2
Africa	2.0	2.1	1.9	2.0	2.1	2.0	2.1	2.1	2.1	2.0	2.0
Total Non-OECD	43.7	43.3	43.6	44.1	43.5	43.7	43.6	44.3	44.4	43.8	44.7
Total	81.8	81.0	82.9	83.9	81.8	82.9	81.7	83.7	83.5	82.3	83.5
<i>Year-on-year change</i>	<i>0.5</i>	<i>-0.5</i>	<i>-0.6</i>	<i>0.0</i>	<i>-1.0</i>	<i>-0.5</i>	<i>0.5</i>	<i>0.8</i>	<i>1.1</i>	<i>0.1</i>	<i>1.2</i>

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

Margins

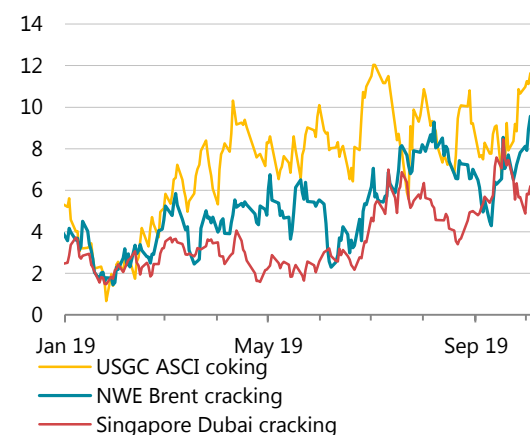
The price spikes after the attacks on Saudi Arabia resulted in September average crude prices gaining \$2-4/bbl month-on-month (m-o-m). This, combined with a seasonal decline in gasoline cracks, saw light crude refining margins falling m-o-m. Medium sour margins increased in Europe and Singapore, supported by stronger high sulphur fuel oil (HSFO) cracks, while the US Gulf Coast sour margins, exposed to a higher proportion of gasoline cracks, declined m-o-m. The steepest falls were observed in Maya-based margins, as its discount to WTI narrowed dramatically (the grade's pricing formula includes a reference to high sulphur fuel oil).

IEA/KBC Global Indicator Refining Margins ¹											
	Monthly Average				Change	Average for week ending:					
	Jun 19	Jul 19	Aug 19	Sep 19	Sep 19-Aug 19	06 Sep	13 Sep	20 Sep	27 Sep	04 Oct	
NW Europe											
Brent (Cracking)	3.78	6.79	7.62	6.50	↓ -1.12	5.69	5.37	7.44	7.19	8.82	
Urals (Cracking)	4.67	6.55	5.64	6.61	↑ 0.98	5.35	5.57	7.17	8.05	8.26	
Brent (Hydroskimming)	1.52	4.18	4.40	4.41	↑ 0.01	2.90	2.95	5.51	6.06	6.32	
Urals (Hydroskimming)	0.81	2.46	-0.60	1.38	↑ 1.98	-0.86	-0.14	2.79	3.74	1.31	
Mediterranean											
Es Sider (Cracking)	4.58	7.93	8.26	7.63	↓ -0.63	6.44	6.71	8.61	8.52	9.34	
Urals (Cracking)	4.97	6.62	5.00	7.24	↑ 2.24	5.38	6.09	8.21	8.85	9.32	
Es Sider (Hydroskimming)	2.44	5.62	5.35	5.22	↓ -0.13	3.57	3.96	6.42	6.80	6.64	
Urals (Hydroskimming)	0.69	2.30	-1.65	1.24	↑ 2.89	-1.49	-0.66	2.93	4.01	1.93	
US Gulf Coast											
Mars (Cracking)	4.66	6.02	2.50	2.65	↑ 0.16	1.53	1.69	2.86	3.79	5.87	
50/50 HLS/LLS (Coking)	11.13	13.75	11.61	10.22	↓ -1.39	9.29	9.64	10.46	10.90	13.07	
50/50 Maya/Mars (Coking)	6.27	8.04	9.16	5.30	↓ -3.86	4.69	5.95	4.23	5.91	8.23	
ASCI (Coking)	8.36	9.60	8.87	8.56	↓ -0.31	7.77	8.49	7.74	9.59	11.29	
US Midwest											
30/70 WCS/Bakken (Cracking)	18.88	18.77	11.05	12.11	↑ 1.07	10.22	10.90	13.45	13.11	14.91	
Bakken (Cracking)	20.51	20.41	13.98	14.85	↑ 0.87	12.79	14.09	15.40	16.17	17.63	
WTI (Coking)	21.13	21.02	14.39	13.37	↓ -1.01	11.27	12.74	13.59	14.91	16.36	
30/70 WCS/Bakken (Coking)	21.07	20.87	14.79	15.24	↑ 0.44	12.95	14.15	16.06	16.80	18.39	
Singapore											
Dubai (Hydroskimming)	-0.07	3.56	0.29	3.07	↑ 2.78	1.09	2.96	6.29	2.60	-0.15	
Tapis (Hydroskimming)	-0.62	3.78	2.10	1.27	↓ -0.83	-0.72	0.33	3.63	1.89	1.47	
Dubai (Hydrocracking)	2.87	5.61	4.66	6.18	↑ 1.51	5.18	6.29	7.54	5.95	5.60	
Tapis (Hydrocracking)	-0.55	3.48	4.70	3.64	↓ -1.06	2.09	2.85	5.01	4.40	5.48	

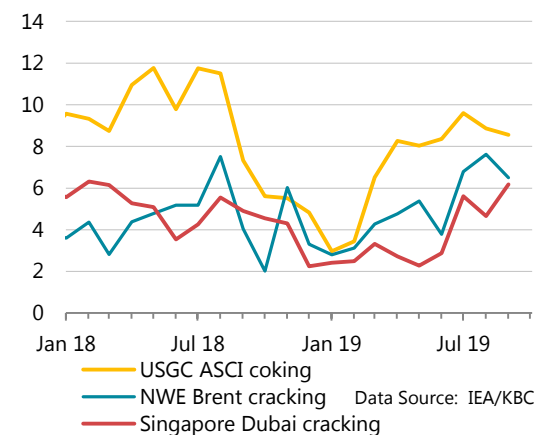
¹ Global Indicator Refining Margins are calculated for various complexity configurations, each optimised for processing the specific crude(s) in a specific refining centre. Margins include energy cost, but exclude other variable costs, depreciation and amortisation. Consequently, reported margins should 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)

\$/bbl Regional Refining Margins

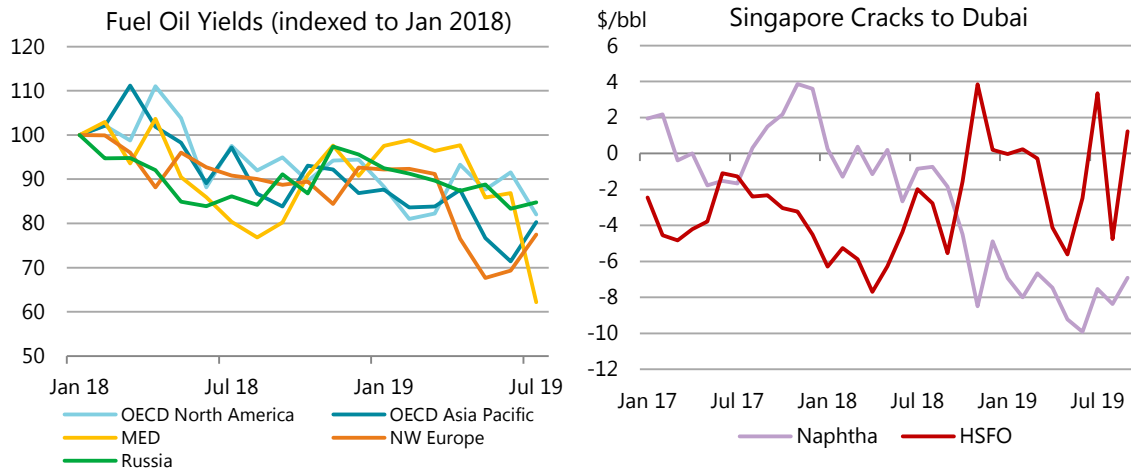


\$/bbl Regional Refining Margins Monthly



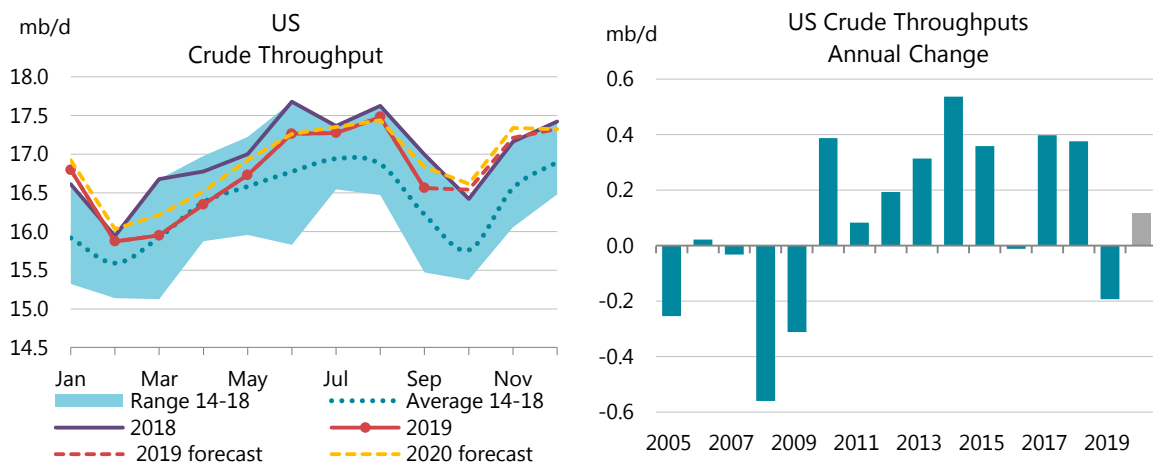
The volatility in HSFO cracks is due to a generally tight market with a thin inventory cushion as storage space is being cleared for lower sulphur bunker components. As fuel oil yields have declined due to a lighter crude slate and upgrading units coming online, any surge in buying

activity for bunkers or interregional arbitrage causes prices to spike. In addition, at least one oil major was reported diluting contaminated Urals crude with HSFO to ship to a US refinery. This puts additional pressure on already tight HSFO supplies. Another straight-run product, naphtha, saw a minor increase in cracks, thanks to Saudi outages affecting immediate supplies to Asian markets. In Singapore, the reference price for the main naphtha importing region of North East Asia, monthly average cracks stayed below \$6/bbl on weak demand from the petrochemicals sector and increased supply of lighter grade crudes and naphtha alternatives.



OECD refinery throughput

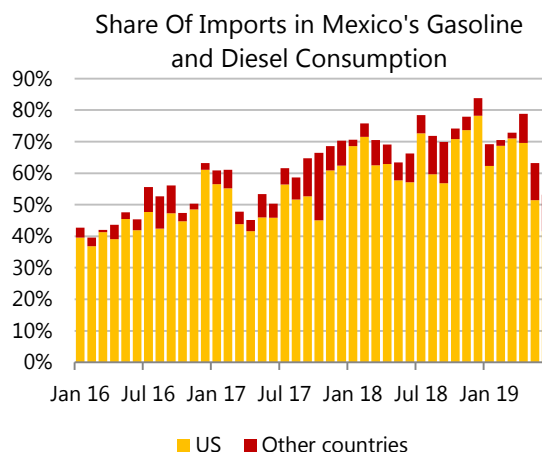
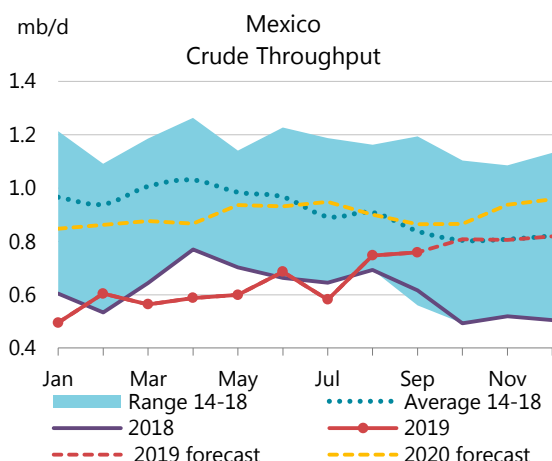
July data were finalised up by 380 kb/d on higher data for Italy, Turkey and Japan. However, August preliminary submissions were lower than expected for Europe and OECD Asia Pacific.



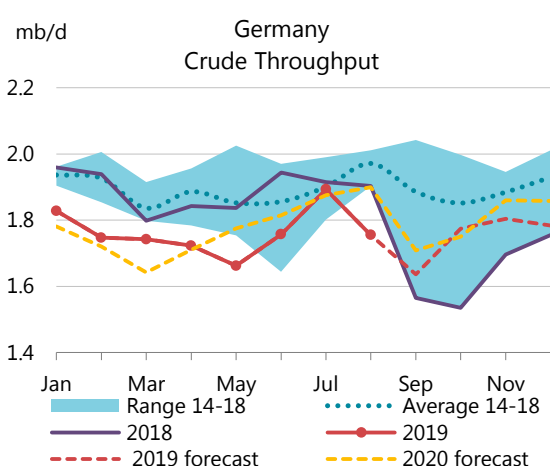
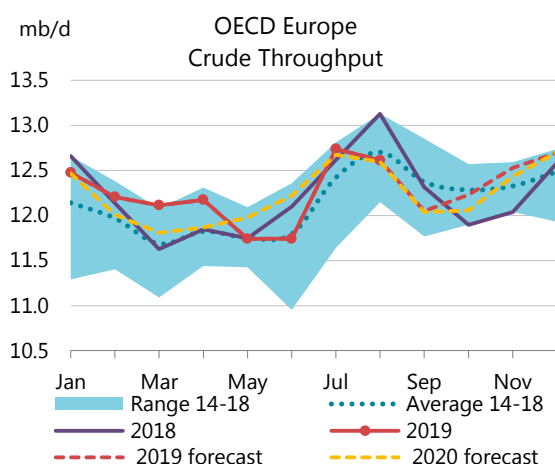
US throughput declined seasonally by 0.9 mb/d m-o-m in September to 16.5 mb/d and was down 430 kb/d y-o-y. In PADD 3 (US Gulf Coast), refineries in coastal clusters were briefly affected by cautionary shutdowns during the landing of the Tropical Storm Imelda. This caused runs to fall by 350 kb/d y-o-y. This year, the peak month for the autumn planned refinery maintenance programme in the US is September rather than, as is usual, in October. In 2019, US throughput is expected to register its first visible y-o-y decline since 2009. For 2020, we forecast growth of 120 kb/d, but the risk is to the downside as Mexico and some Central

American countries move forward with refinery rehabilitation programmes (see *Caribbean: not a refining paradise?*).

Mexican throughput in August jumped 165 kb/d m-o-m to 730 kb/d, crossing the 700 kb/d mark for the first time since April 2018. Weekly run rates in September reportedly reached 800 kb/d. We have revised up our forecast for 4Q19 and 2020 by 140 kb/d and 120 kb/d, respectively.



Mexico has not been self-sufficient in transport fuels in recent decades, and dependence on imports topped 80% in 2018 as refining activity dropped to only 30% utilisation. Most of the imports came from the US, which supplied on average 700 kb/d of gasoline and diesel.



European refiners have entered their maintenance season, which is expected to last through October. Workers at Total's Feyzin refinery announced a strike in early October. **Germany**, which has the continent's largest refining capacity, has dragged down overall regional performance this year. In September, on the first anniversary of a major fire at the Vohburg refinery, its operator Bayernoil announced that the restart of the second crude distillation unit is delayed for an indefinite period. In May and June, the Leuna and Schwedt refineries cut runs due to contaminated crude in the Druzhba pipeline. In 4Q19, regional throughput is expected to be broadly flat q-o-q but this will be a rebound of 310 kb/d y-o-y due to a low base year effect.

Refinery Crude Throughput and Utilisation in OECD Countries

(million barrels per day)

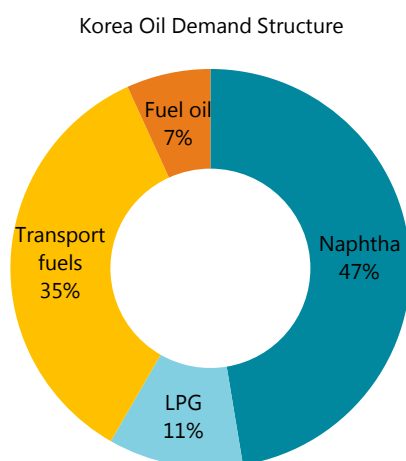
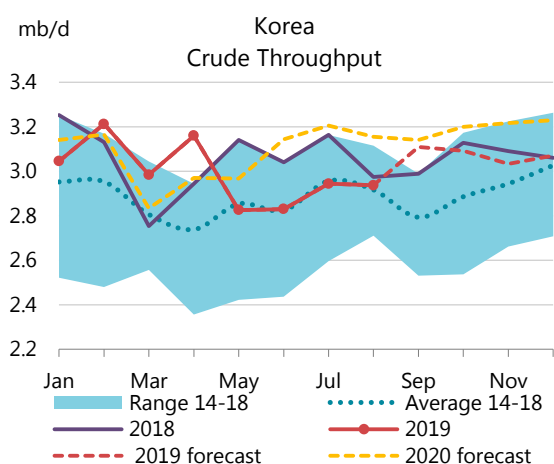
	Mar 19	Apr 19	May 19	Jun 19	Jul 19	Aug 19	Change from		Utilisation rate ¹	
							Jul 19	Aug 18	Aug 19	Aug 18
US ²	15.94	16.34	16.72	17.25	17.26	17.47	0.21	-0.14	92%	93%
Canada	1.75	1.55	1.63	1.77	1.73	1.82	0.09	0.04	91%	89%
Chile	0.19	0.20	0.22	0.20	0.20	0.21	0.00	0.01	90%	85%
Mexico	0.55	0.58	0.59	0.68	0.57	0.74	0.17	0.05	45%	41%
OECD Americas³	18.43	18.67	19.16	19.90	19.76	20.23	0.47	-0.04	88%	89%
France	1.04	1.04	0.99	0.90	1.08	1.13	0.05	-0.09	92%	99%
Germany	1.73	1.71	1.65	1.75	1.88	1.75	-0.14	-0.15	86%	94%
Italy	1.24	1.30	1.33	1.37	1.46	1.51	0.05	0.07	87%	83%
Netherlands	1.16	1.09	1.04	0.96	1.15	1.12	-0.03	-0.01	87%	87%
Spain	1.37	1.38	1.29	1.21	1.30	1.32	0.02	-0.15	93%	104%
United Kingdom	1.02	1.08	1.03	0.98	1.07	1.09	0.02	-0.08	86%	92%
Other OECD Europe	4.54	4.56	4.40	4.57	4.79	4.69	-0.10	-0.12	90%	96%
OECD Europe	12.10	12.16	11.73	11.73	12.73	12.60	-0.13	-0.52	87%	92%
Japan	3.14	3.08	2.72	2.87	2.98	3.18	0.20	-0.04	89%	90%
South Korea	2.97	3.15	2.82	2.82	2.93	2.93	-0.01	-0.04	86%	90%
Other Asia Oceania	0.86	0.82	0.79	0.85	0.90	0.90	0.00	0.03	103%	100%
OECD Asia Oceania	6.98	7.06	6.33	6.53	6.82	7.00	0.19	-0.05	89%	91%
OECD Total	37.52	37.88	37.22	38.17	39.31	39.84	0.53	-0.60	88%	90%

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

² US\$50

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

Korean throughput in August remained under 3 mb/d. Naphtha demand started recovering in July, having reached the lowest level in three years in June. Naphtha accounts for almost half of Korea's 2.6 mb/d oil demand, showing the extent of the petrochemical integration in the country's refining sector. Transport fuels such as gasoline, diesel and kerosene, taken together account for only 35% of total demand. With naphtha yields at about 25%, Korean refining activity levels are sensitive to domestic naphtha demand fluctuations resulting from cracker utilisation and feedstock switch.



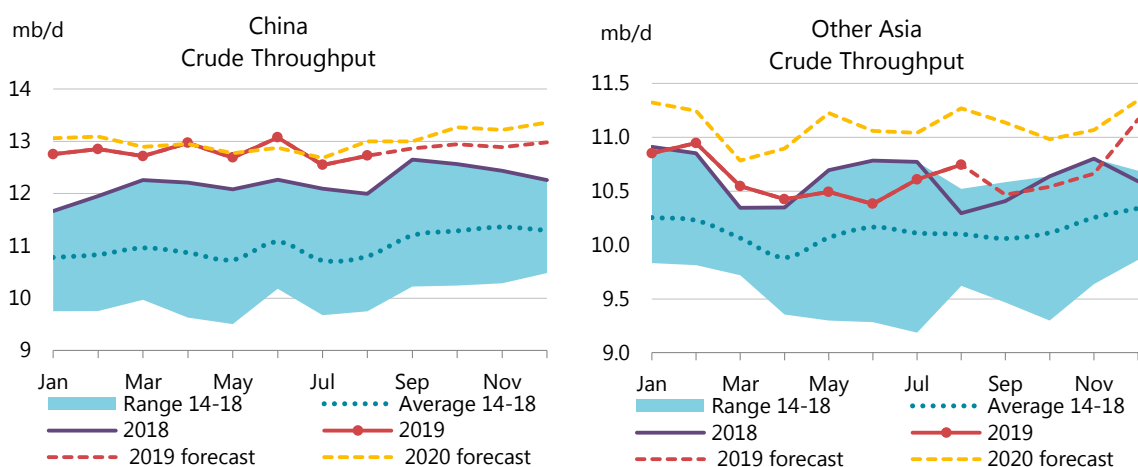
Meanwhile, **Japanese** refiners are turning their attention to low sulphur bunkers, with several of them recently announcing the availability of 0.5% bunker fuels at the country's ports. Most of the new fuel production seems to come from components previously used in the Type A fuel oil grade, a 1% sulphur blend of distillate material and residual fuel oil. Runs picked up 0.2 mb/d

m-o-m in August, and are expected to remain broadly flat this year, after a 130 kb/d decline in 2018.

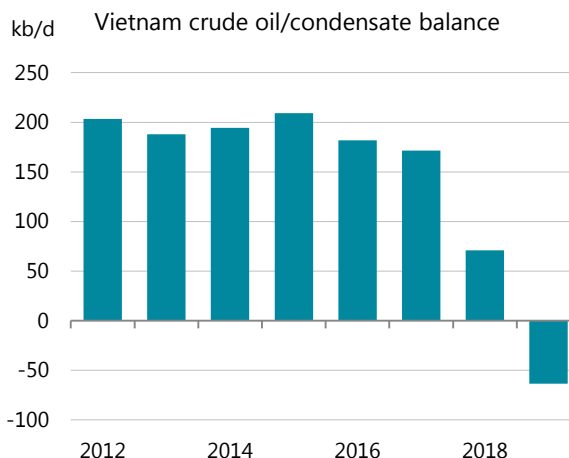
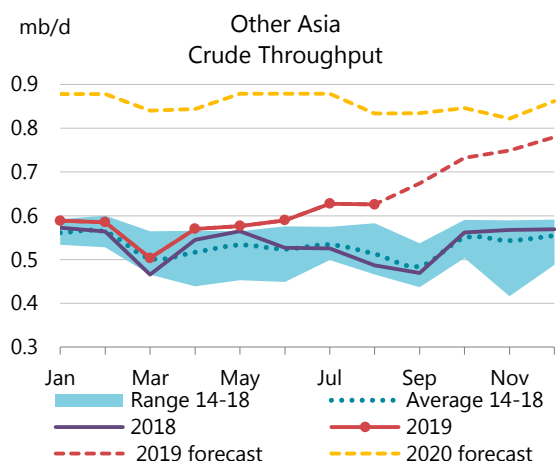
Non-OECD refinery throughput

In 2019, non-OECD refining throughput is set to increase by just 0.2 mb/d, its slowest pace of growth in at least two decades. Demand growth is still robust. While OECD countries collectively see demand for refined products fall marginally this year, non-OECD demand will increase by about 0.8 mb/d. In 1H19, China and the Middle East were the only regions with significant refining growth. In 2H19 the only visible growth outside China will be from new capacity ramping up in Malaysia and Brunei, as throughputs decline in the Middle East.

China's refining intake rebounded 180 kb/d in August, up by 730 kb/d y-o-y. Runs in the Liaoning province, home to Hengli Petrochemical's new 400 kb/d plant, crossed the 2 mb/d mark for the first time, up 450 kb/d y-o-y. Rongsheng Petrochemical's 400 kb/d plant in Zhejiang province has reportedly started running its first 200 kb/d CDU. The provincial intake data for Zhejiang showed a 140 kb/d increase y-o-y in August. Meanwhile, official data for Shandong continued showing y-o-y declines. In 4Q19, crude intake is forecast to grow 0.5 mb/d, but in 2020 we see growth slowing markedly to 180 kb/d. China's petrochemical refineries pose a serious risk to the small-scale independent refineries that have so far benefitted from fiscal loopholes and sympathetic local governments. With Chinese demand growth expected to slow to just 0.3 mb/d next year, and product export quotas closed to independent refiners, there is little room left for more growth in refining.

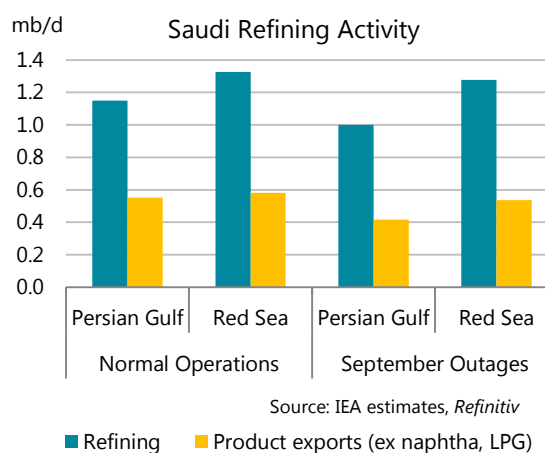
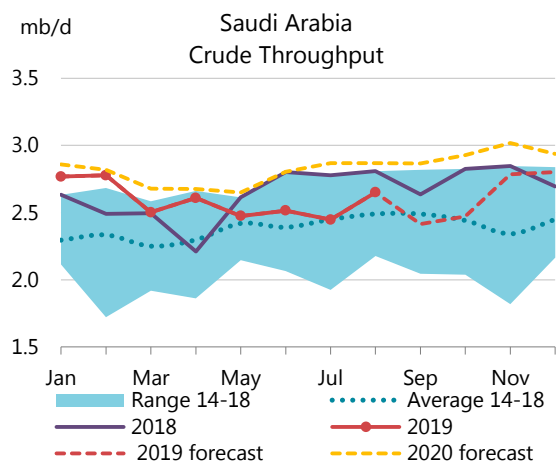


Indian throughput inched up in August to just under 5.2 mb/d. In September runs likely fell to 5.0 mb/d on maintenance. We brought forward start-up dates for **Malaysia's** RAPID and **Brunei's** Hengyi refineries following reported product sales from both sites. **Vietnam** announced the lifting of crude oil import taxes from November. The country turned into a net importer of crude oil this year with the start of its second refinery in 2018 and continued declines in domestic oil production.



In **Saudi Arabia**, July data extended the irregular decline in refinery runs. Refinery throughput averaged 2.5 mb/d in May-July, 250 kb/d lower y-o-y. In the absence of any reported maintenance in June and July one likely explanation is the drive to maximise crude exports while cutting crude output, which was down 700 kb/d y-o-y in July.

In September, the disruption caused by attacks on the Abqaiq crude processing plant and Khurais oil field temporarily affected production volumes of Arab Light and Arab Extra Light (see *Supply*, "Box 2. Saudi bounces back fast"). Initially, several Saudi refineries and Bahrain's Sitra plant reportedly cut runs due to crude shortage and prioritised supplies to international customers. At the time of writing the refinery in Bahrain and Petrorabigh on the Red Sea coast were back to normal, but there was no conclusive information on overall processing rates. We have estimated a 250 kb/d impact on combined Saudi and Bahrain crude throughput in September.

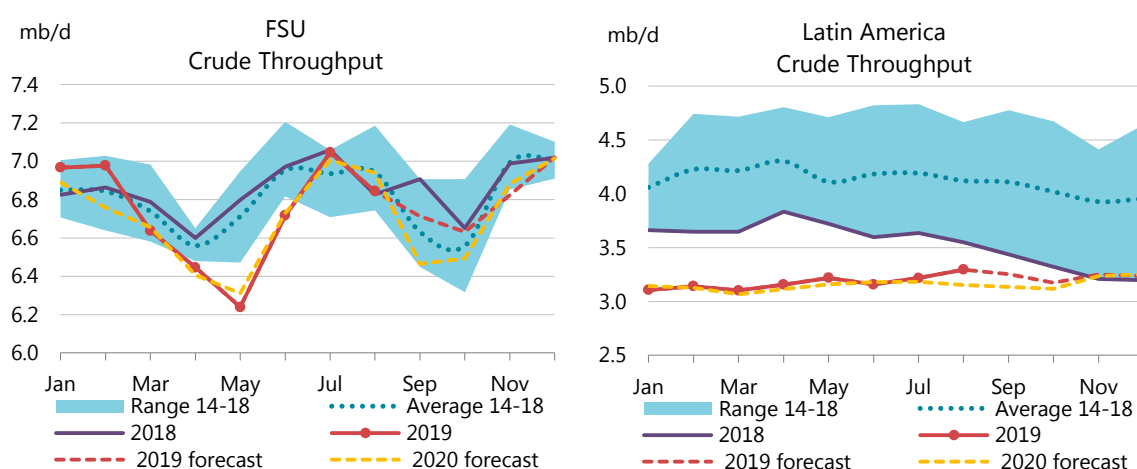


Saudi refining activity is higher in the Red Sea refining cluster compared to the Persian Gulf, but given the larger population of the Western provinces, refined product exports from both regions are roughly similar. We estimated a larger impact of the outages on the Persian Gulf refineries. *Refinitiv* showed September naphtha loadings from Saudi ports at half their August levels, but other products were shown loading at normal volumes, except for a small reduction in jet fuel exports. Product stocks could have been used to prop up exports: according to JODI, Saudi Arabia had 97 mb of product stocks in July.

Middle East throughput overall is estimated to have fallen 200 kb/d y-o-y in 3Q19, but is expected to be flat y-o-y in 4Q19 assuming Saudi processing rates ramp-up.

South Africa provided 1H19 refining activity data for the first time, with throughput some 60 kb/d higher than our estimate. The **Nigerian** oil ministry once again announced plans to start repairs at the country's three oil refineries, this time with a view of restoring processing to normal levels by 2022 from the current utilisation rates of 4-10%. This would coincide with the start-up of the new 650 kb/d Lekki plant.

Russia's refining system entered seasonal maintenance in September, with throughput falling 300 kb/d m-o-m. Final data for August showed runs crossing the 6 mb/d mark for the first time in five years. In **Belarus**, crude processing was 335 kb/d in June, implying only a 45 kb/d impact in the second full month of the Druzhba contamination crisis.



August refinery runs in **Brazil** exceeded 1.8 mb/d for the first time in 14 months. Petrobras is proceeding with a programme of downstream asset divestments. **Argentinian** runs inched up to just under 500 kb/d in August. A fire at **Venezuela's** Paraguana refining complex in September shut refining operations completely, but processing reportedly resumed by the end of the month. Refiners in the Caribbean are also going through testing times. After several years of shutdowns, there are tentative plans to bring some of the idled assets back to life (see Box 6. *Caribbean: not a refining paradise*).

Ecuador's decision to leave OPEC in 2020 was not the only radical proposal for its petroleum sector. Earlier the government announced plans to mothball the 110 kb/d Esmeraldas refinery, the largest of the three operating in the country, and invited bids for a 300 kb/d coastal refinery. While street protests erupted following the removal of subsidies on diesel and gasoline in October, there is no evidence yet that this has impacted refinery operations. The consumption of oil products in Ecuador in 2018 was subsidised to the tune of \$14/bbl. Ecuador's oil demand is about 260 kb/d while it produces 550 kb/d crude oil. Countries on the Pacific Coast of Latin America are relatively isolated from major product export hubs, due to long distances across the Pacific and the constrained logistics of the Panama Canal. Overall product import requirements for the Pacific Coast of Latin America amount to 400 kb/d.

Box 6. Caribbean: not a refining paradise

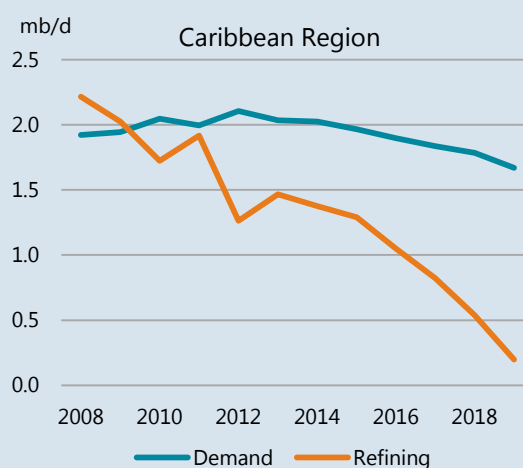
Latin America is no stranger to refining ups-and-downs. The continent's largest refiner, Petrobras, had plans a decade ago to boost refinery capacity to 6 mb/d. Having first reduced the objective to 3 mb/d and then halted construction of several new sites, it is now in the process of divesting half of its 2.2 mb/d fleet. The meltdown of Venezuela's refining industry is another example. Its Caribbean neighbours, have also gone through some dramatic changes in recent years. This region of over a dozen independent states and 17 dependent territories, with a combined population of 44 million, had 1.5 mb/d of refining capacity a decade ago. Following the closure of several large refineries (Hovensa's 500 kb/d plant in the US Virgin Islands, Valero's 235 kb/d site in Aruba and the 335 kb/d Curaçao plant), current refining activity is estimated at just 100 kb/d. Together with Venezuela, the region lost 2 mb/d in refining throughput over the last decade.

Closures are likely to continue. The average size of operating refineries is under 30 kb/d. For many, PDVSA's Petrocaribe programme was a lifeline. Petrocaribe members could buy crude oil and oil products from Venezuela on preferential terms and defer up to 40% of the payment for up to 25 years. It is not clear how long the Petrocaribe programme will last, given the current state of affairs in Venezuela.

Trinidad and Tobago, which was not a party to the agreement, mothballed its 165 kb/d refinery at the end of 2018, due to poor operating margins. The Jamaican government moved one step closer to shutting down the country's sole 35 kb/d refinery, by dissolving the operating company. The Dominican Republic is reportedly discussing the shutdown of the local refinery. Early October, a dormant project by CITGO to revive Aruba's plant was formally dissolved by the island's government.

On the other hand, the region's refining system may yet stage a mini-comeback. Limetree Bay, a private-capital backed firm that announced last year the restart of Hovensa's idled refinery, is aiming to begin operations by the end of 2019. There is speculation that the refinery could run light crude grades. We are awaiting further details before including the restart in our forecast. Klesch, an industrial group that bought the 100 kb/d Heide refinery in Germany from Shell, is discussing plans to operate Curaçao's 335 kb/d idled refinery. The same company unsuccessfully bid for Trinidad's refinery, which was eventually sold to a company partly owned by the former employees. They are planning to restart it in the second half of 2020.

Over the last few years, US Gulf Coast and European refiners benefitted from the slowdown of refining activity in Mexico and Latin America. Mexican plans to restore domestic refining activity could burden Caribbean markets with untapped US product exports, potentially leaving little room for their revival.



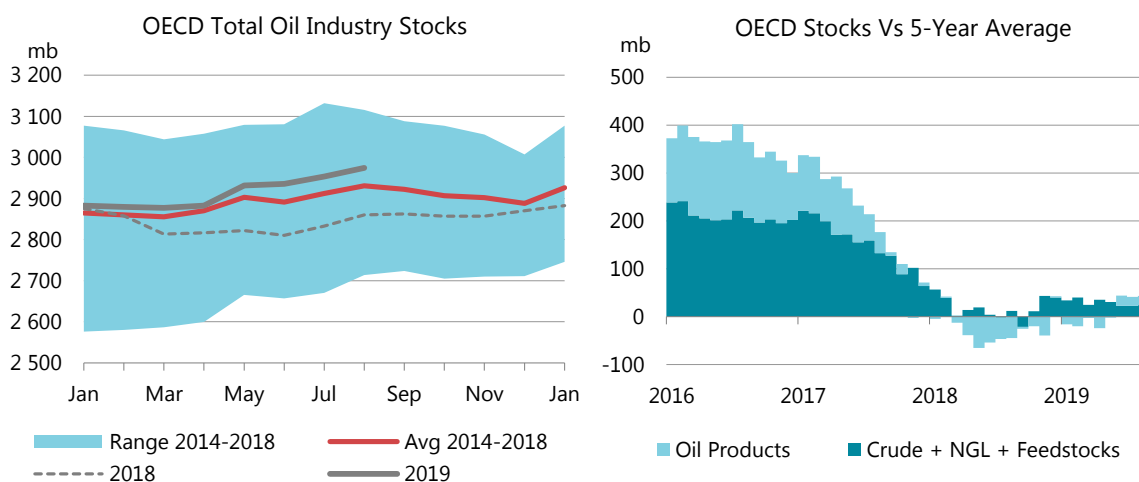
Stocks

Overview

OECD industry stocks built 20.8 mb month-on-month (m-o-m) in August to 2 974 mb, the fifth straight monthly increase. They reached the highest level since September 2017 and were 43.1 mb above the five-year average. The gain was in line with the usual increase of 19.2 mb for the month. On a forward demand basis, stocks were 0.6 days lower than the five-year average of 62.2 days.

Crude oil inventories fell by 14.4 mb to 1 098 mb although the decrease was less than usual. OECD Americas crude inventories drew by a large 19.8 mb, more than double the usual rate due to higher crude exports from the US. Crude stocks in Europe fell by a modest 0.2 mb compared with the usual decrease of 8.3 mb amid lower refinery runs in the region. On the contrary, Asia Oceania crude stocks increased counter-seasonally by 5.7 mb with a large build observed in Korea.

Stocks of oil products rose by 32.5 mb to 1 514 mb, in line with the usual gain for the month. Middle distillates increased by 12.9 mb, less than usual, due to counter-seasonal falls in OECD Americas. Fuel oil and other oil categories also gained by 0.5 mb and 21.4 mb, respectively. Gasoline stocks decreased by 2.2 mb.



Preliminary data for September showed stocks falling in all three OECD regions and by 21.7 mb overall. US crude oil stocks increased counter-seasonally by 1.9 mb due to strong production and reduced refinery runs. Total oil product inventories drew by 3.6 mb. European oil inventories fell by 6.5 mb owing to decreases in product stocks (-6.8 mb). Crude stocks rose by 0.3 mb amid lower refinery crude intake. Japanese preliminary data showed total inventories decreasing by 9.6 mb. Crude oil stocks decreased by 5.9 mb, larger than the usual fall of 3.1 mb. Total products also decreased by 1.7 mb due to counter-seasonal falls observed in middle distillate and other product categories.

Preliminary Industry Stock Change in August 2019 and Second Quarter 2019												
August 2019 (preliminary)					Second Quarter 2019							
(million barrels)				(million barrels per day)				(million barrels per day)				
	Am	Europe	As.Ocean	Total	Am	Europe	As.Ocean	Total	Am	Europe	As.Ocean	Total
Crude Oil	-19.8	-0.2	5.7	-14.4	-0.6	0.0	0.2	-0.5	0.0	-0.1	-0.1	-0.1
Gasoline	-3.5	2.2	-0.9	-2.2	-0.1	0.1	0.0	-0.1	-0.1	-0.1	0.0	-0.2
Middle Distillates	-0.9	8.8	5.0	12.9	0.0	0.3	0.2	0.4	0.0	0.1	0.0	0.1
Residual Fuel Oil	-1.2	0.8	0.8	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Other Products	14.8	-0.2	6.9	21.4	0.5	0.0	0.2	0.7	0.5	0.0	0.1	0.6
Total Products	9.2	11.6	11.7	32.5	0.3	0.4	0.4	1.0	0.4	0.0	0.1	0.5
Other Oils ¹	2.7	-1.9	1.9	2.7	0.1	-0.1	0.1	0.1	0.2	0.0	0.1	0.3
Total Oil	-7.9	9.5	19.2	20.8	-0.3	0.3	0.6	0.7	0.6	-0.1	0.1	0.6

¹ Other oils includes NGLs, feedstocks and other hydrocarbons.

Data for July OECD stocks were revised up: the largest adjustment was for crude oil, which rose by 26.3 mb in total. Downward revisions in total products (-19.4 mb) partly offset the increase in crude oil and other oils. June stock figures were also increased by 5.5 mb, mainly in the Americas.

Revisions versus September 2019 Oil Market Report								
(million barrels)								
	Americas		Europe		Asia Oceania		OECD	
	Jun-19	Jul-19	Jun-19	Jul-19	Jun-19	Jul-19	Jun-19	Jul-19
Crude Oil	2.4	7.2	-0.2	8.0	1.0	11.1	3.2	26.3
Gasoline	-1.7	-0.7	0.0	-1.7	-0.2	0.1	-1.9	-2.3
Middle Distillates	1.4	0.0	-1.9	-2.6	-0.2	-1.6	-0.7	-4.2
Residual Fuel Oil	0.1	-2.3	0.0	1.0	-0.4	-0.7	-0.3	-2.0
Other Products	-1.6	-6.8	0.1	-5.4	0.9	1.3	-0.6	-10.9
Total Products	-1.8	-9.9	-1.9	-8.7	0.1	-0.9	-3.6	-19.4
Other Oils ¹	3.1	11.6	2.8	3.8	-0.1	-0.3	5.8	15.1
Total Oil	3.7	8.9	0.8	3.1	1.0	9.9	5.5	22.0

¹ Other oils includes NGLs, feedstocks and other hydrocarbons.

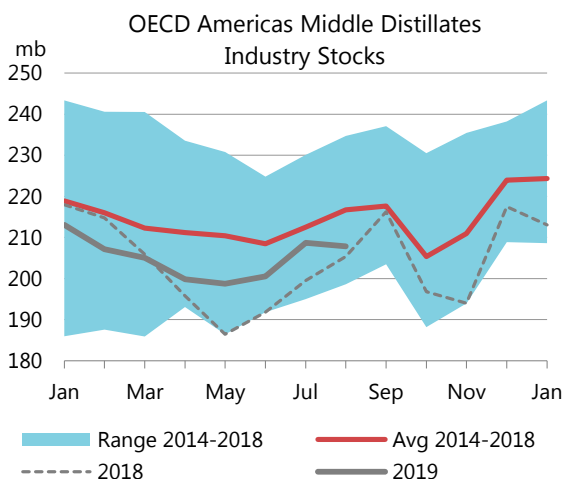
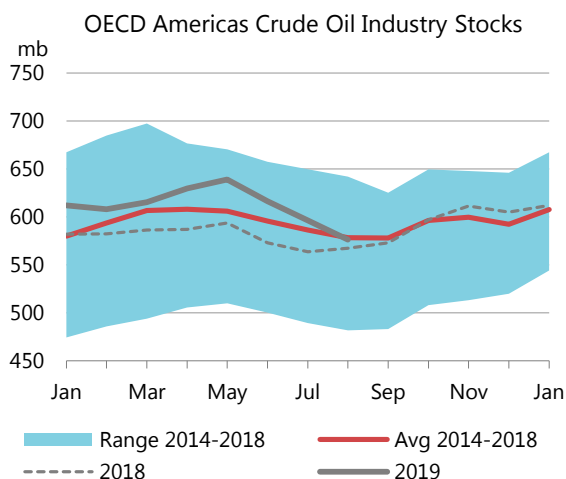
Recent OECD industry stock changes

OECD Americas

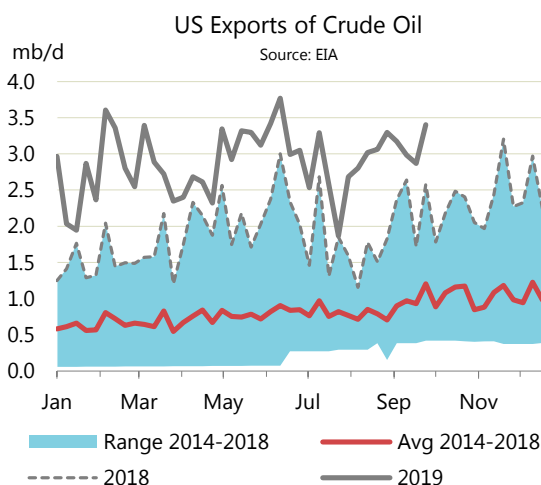
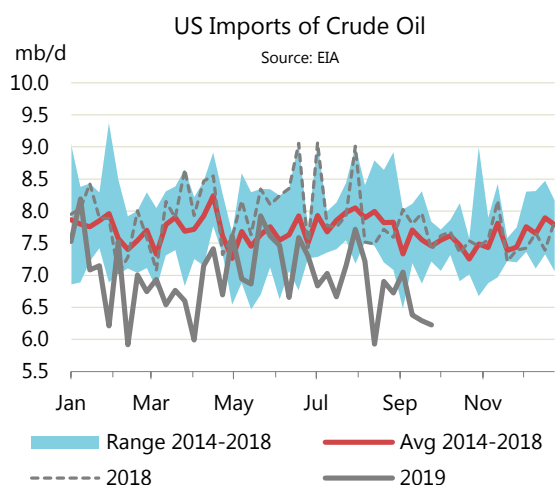
Commercial stocks in the OECD Americas drew 7.9 mb m-o-m in August to 1 559 mb, but were still 32.9 mb above the five-year average. On a forward demand basis, they were 1.1 days below the average. The fall was counter-seasonal for the month and was due to large crude oil stock draws in the US.

Crude inventories fell by 19.8 mb, which is more than double the five-year average decrease of 8.1 mb. The draw on US crude stocks (-17.5 mb) contributed the majority of the fall. M-o-m higher crude exports from the US (+325 kb/d to 2.9 mb/d on average in August according to the *Energy Information Administration*) helped deplete inventories. Increased refinery runs in the US (+210 kb/d m-o-m in August) also played a role. Overall crude stocks stood at 576 mb, more or less in line with the five-year average.

For oil products, total inventories rose 9.2 mb. The build was lower than usual due to counter-seasonal decreases observed in middle distillates (-0.9 mb) and fuel oil (-1.2 mb). Motor gasoline inventories also drew 3.5 mb in line with seasonal patterns. The other oil category showed a large increase of 14.8 mb.



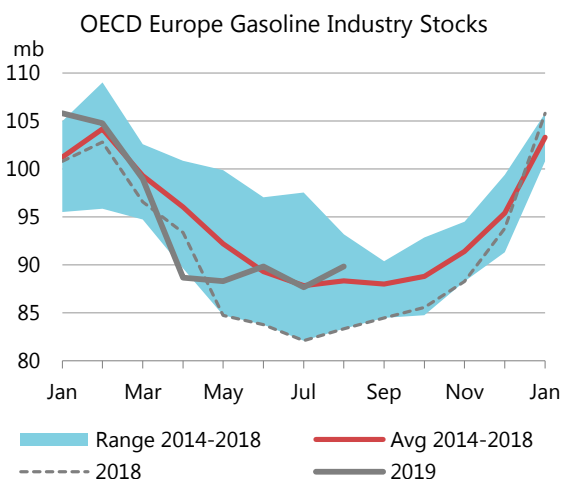
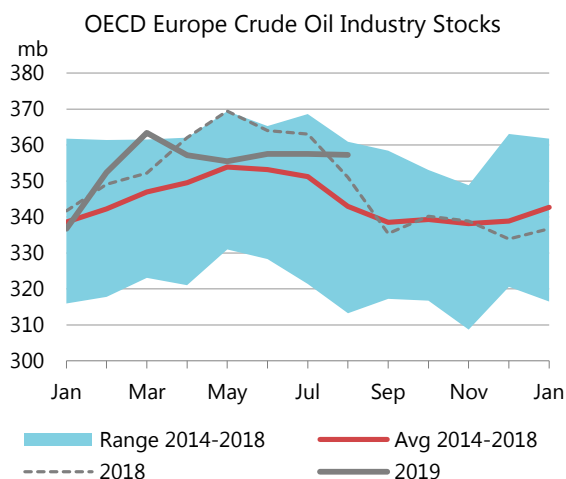
Preliminary September data from the *EIA* show a counter-seasonal crude stock increase of 1.9 mb m-o-m, mainly due to reduced refinery runs (-920 kb/d m-o-m amid seasonal maintenance). Total oil product inventories decreased by 3.6 mb. The main components were: middle distillates (-2.9 mb), residual fuel oil (-0.2 mb) and other products (-0.5 mb). Gasoline stocks were unchanged.



OECD Europe

In August, total industry stocks in OECD Europe built 9.5 mb to 994 mb, which is 21 mb above the five-year average. The gain was larger than the five-year average of 3.4 mb. Crude oil inventories fell by 0.2 mb, lower than usual decrease of 8.3 mb due to counter-seasonal gains in France and the Netherlands. Lower refinery runs (-125 kb/d m-o-m and -515 kb/d year-on-year) in the region helped build crude stocks.

Product inventories increased by 11.6 mb in line with the usual gain of 12.3 mb. Gasoline stocks grew by 2.2 mb. Middle distillate and fuel oil inventories also rose by 8.8 mb and 0.8 mb, respectively. The other products category, which includes LPG and naphtha, decreased counter-seasonally by 0.2 mb.

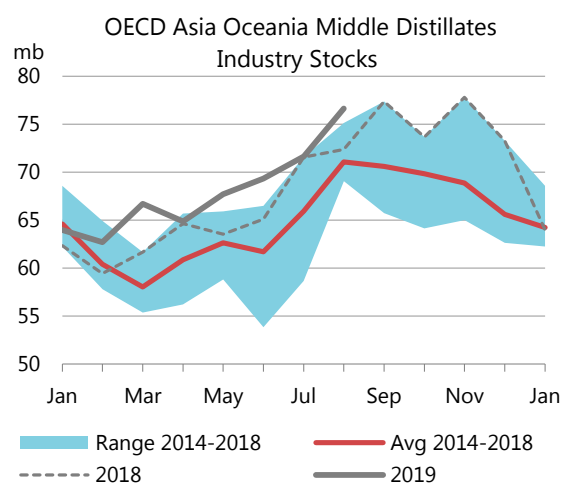
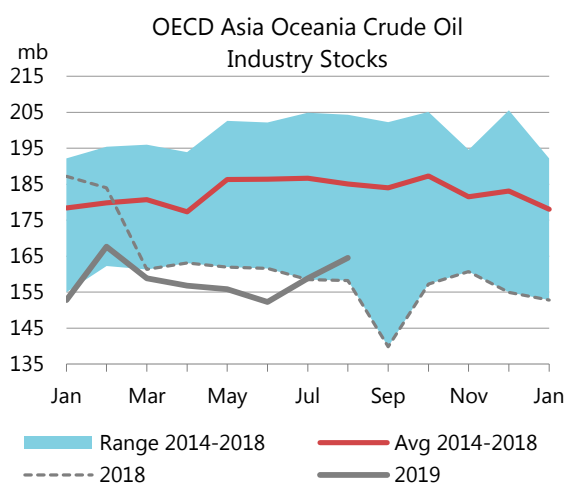


Preliminary data from *Euroilstock* showed inventories falling by 6.5 mb in September owing to decreases in product stocks. Crude stocks rose by 0.3 mb amid lower refinery crude intake for the month (-530 kb/d). For products, middle distillate and fuel oil inventories fell by 5.9 mb and 1.5 mb, respectively. Gasoline stocks built 0.6 mb. Naphtha inventories were unchanged.

OECD Asia Oceania

Total commercial inventories in the Asia Oceania region increased in August by a large 19.2 mb to 421 mb. However they remain 10.9 mb below the five-year average. The gain was more than double the usual 7.5 mb as crude oil stocks rose counter-seasonally (+5.7 mb). Crude inventories in Korea built by 8.3 mb. While the gain is relatively large, it partly offsets the fall observed in the last few months. Japanese crude stocks drew by 2.6 mb amid higher refinery runs (+195 kb/d m-o-m).

Oil product stocks built by 11.7 mb, which was larger than the usual increase of 7.3 mb. It is attributable to a large build in the other products category (+6.9 mb). Middle distillates and fuel oil inventories increased in line with the five-year average by 5 mb and 0.8 mb, respectively. Motor gasoline stocks fell by 0.9 mb.

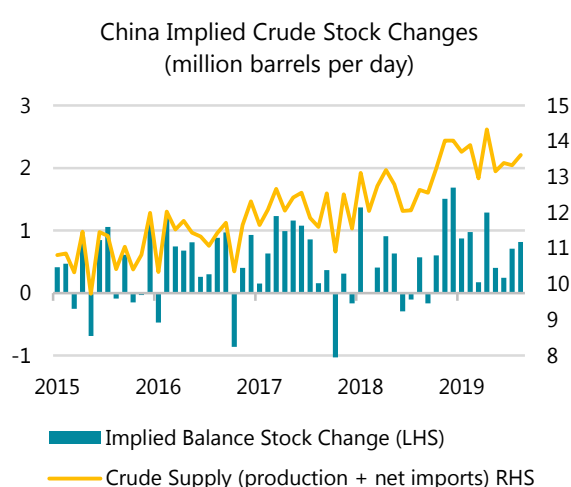
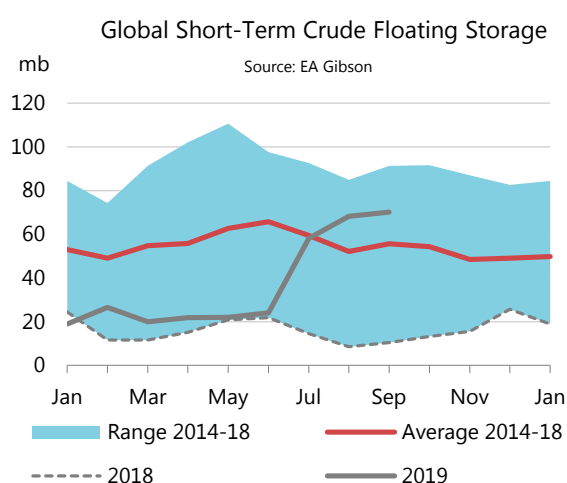


Preliminary data for September from the *Petroleum Association of Japan* show total inventories decreasing by 9.6 mb m-o-m, which is higher than the five-year average fall of 2 mb. Crude oil

stocks decreased by 5.9 mb, larger than the usual fall of 3.1 mb. Total products also decreased by 1.7 mb. Middle distillate and other product categories fell counter-seasonally by 0.8 mb and 0.6 mb, respectively. Residual fuel oil inventories drew by 0.2 mb in line with the seasonal movement. Gasoline stocks also eased by 0.1 mb.

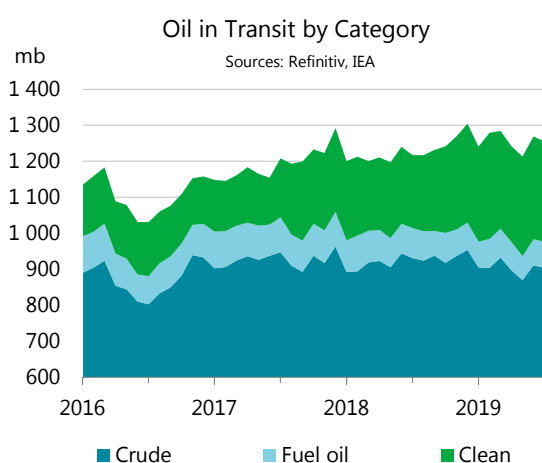
Other stock developments

Short-term floating storage of crude oil rose by 1.8 mb in September to 70.1 mb, according to *EA Gibson* data. Storage in the Middle East Gulf increased by 1.8 mb to 59.7 mb. The number of Iranian VLCCs and Suezmax vessels used for storage was unchanged from the previous month at 29. Crude oil stored in the Asia Pacific region rose by 2.1 mb while in the Mediterranean it fell by 2.1 mb.



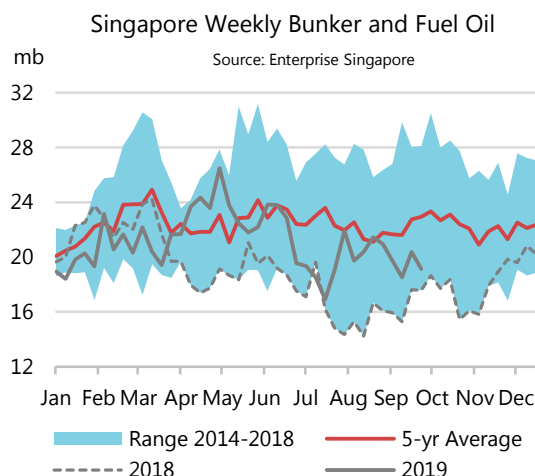
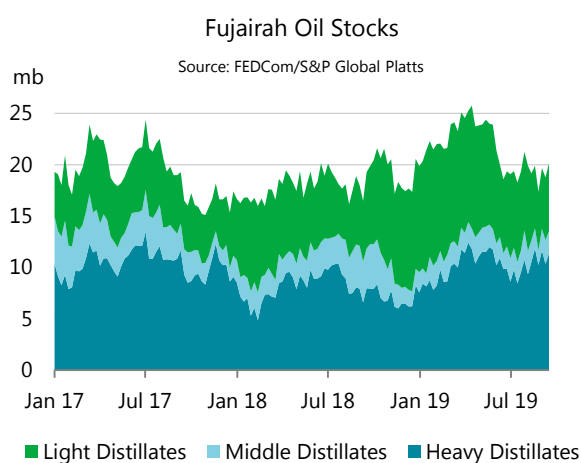
Chinese implied crude stocks built by a relatively large 25.3 mb (815 kb/d) in August according to figures derived from reported crude production, refinery runs and crude import data. Higher crude oil imports (9.9 mb/d in August, +270 kb/d from July) and lower than average refinery runs in August of 12.6 mb/d (versus the January-July 2019 average of 12.7 mb/d) could explain the stock increase for the month.

Seaborne oil in transit volumes, based on data from *Refinitiv*, fell by 17.8 mb in August as all categories showed a decrease. Due to lower crude exports from OPEC+ producers and the impact of sanctions against Iran and Venezuela, crude oil in transit decreased by 12.8 mb. Clean products and fuel oil also fell by 4.9 mb and 0.1 mb, respectively.



Oil stock movements in major bunkering hubs in September were mixed: total inventories rose in Fujairah but fell in Singapore. In Fujairah, they increased by 0.4 mb m-o-m according to data from *FEDCom* and *S&P Global Platts*. Light and middle distillate stocks gained by 0.4 mb and 0.2 mb, respectively, while fuel oil inventories fell by a modest 0.1 mb. Fuel stocks in Singapore decreased by 1.3 mb during the month based on data

from *Enterprise Singapore*. Total inventories stood 3.4 mb below the five-year average. Light distillates fell by 1.2 mb. Residual fuel oil stocks also decreased by 1.7 mb. Middle distillate inventories, on the contrary, rose 1.6 mb.



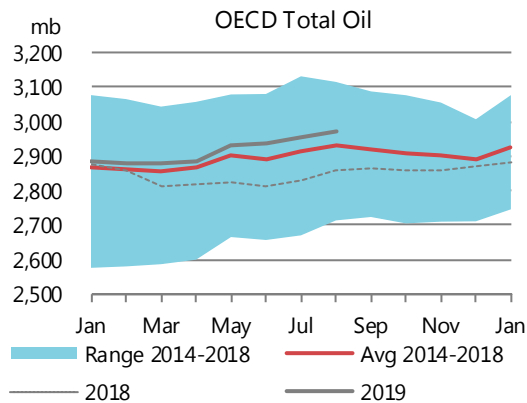
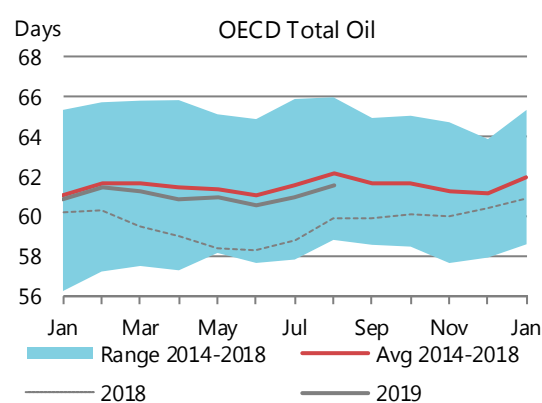
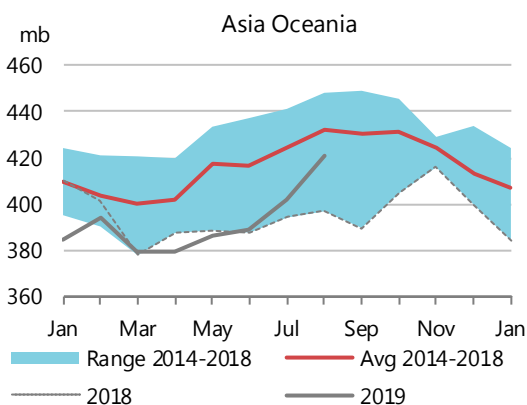
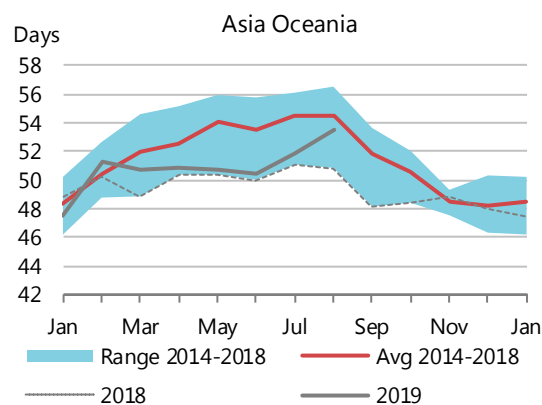
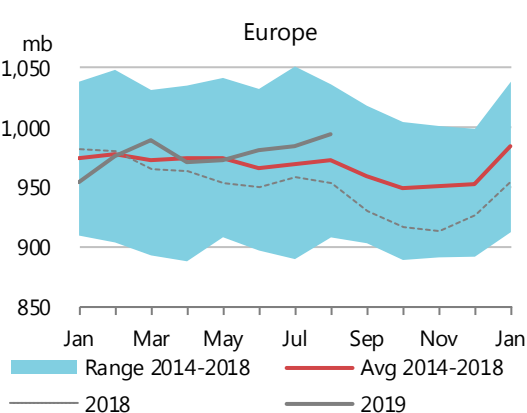
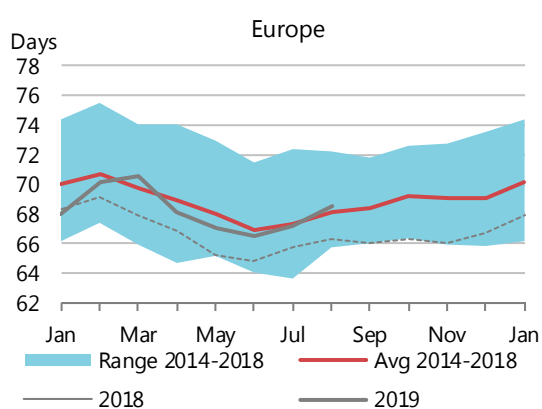
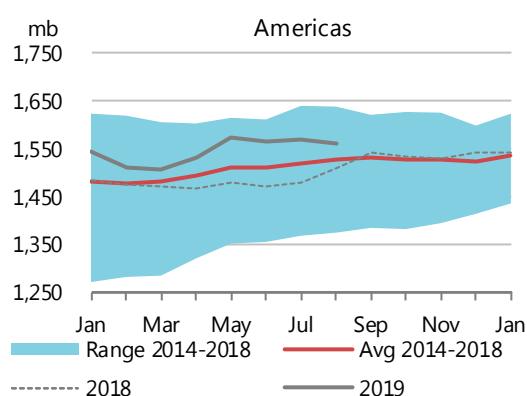
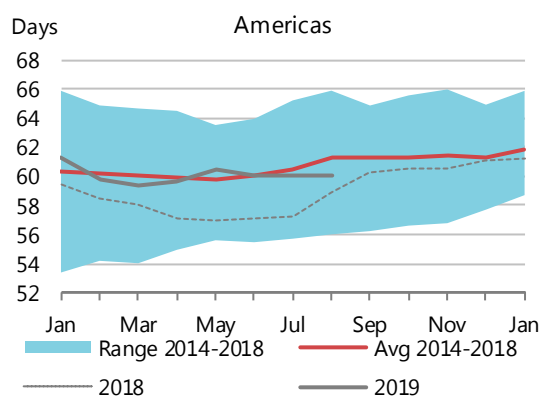
Stockpiles in the 11 non-OECD economies covered by the *JODI* database fell by 5.1 mb m-o-m in July to 535 mb. Crude stocks held by Saudi Arabia decreased by 8.1 mb, although in the aftermath of the recent attacks, it is not entirely clear how much of the total is stored abroad. India and Iraq also fell by 2.4 mb and 2.8 mb, respectively. By contrast, Nigerian inventories gained by 2.3 mb. For oil products, India and Nigeria increased by 4 mb and 3.2 mb, respectively. Hong Kong product stocks fell by 2.8 mb. Chinese Taipei also decreased by 2 mb.

Regional OECD End-of-Month Industry Stocks

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

Days¹

Million Barrels



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

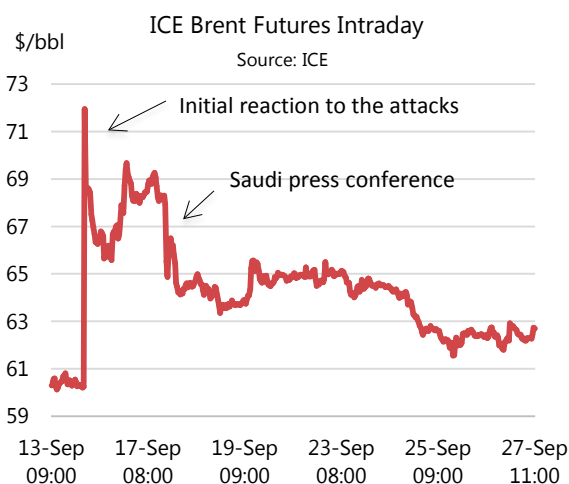
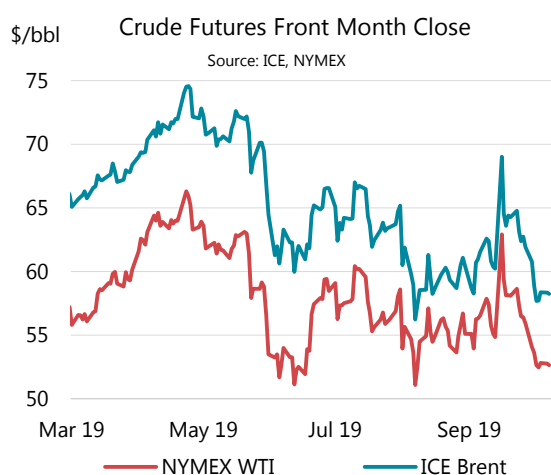
Prices

Overview

The attacks that temporarily shut-in 5.7 mb/d of Saudi Arabia's oil processing capacity on 14 September had an initial intense impact on global crude futures, spot and product markets. On 16 September, the first day of trading after the attacks, ICE Brent futures rose by 19% to \$71.95/bbl, one of the largest intra-day gains on record. Prices were quick to ease following assurances by Saudi authorities that the outage would be temporary and crude exports would be delivered as scheduled, albeit with some Arab Light and Extra Light volumes substituted for heavier grades (see Supply box: *Saudi bounces back fast*). Furthermore, comfortable levels of crude and product stocks provided reassurance to the market.

There were suggestions that the escalation of unrest in the Middle East and rising concern for oil supply security could result in a "risk premium" being applied to prices. So far this does not seem to be the case, as by early-October Brent and WTI had fallen to around \$58/bbl and \$52/bbl, respectively, below the levels immediately prior to the attacks, as weakening economic indicators raised concerns that demand growth could slow.

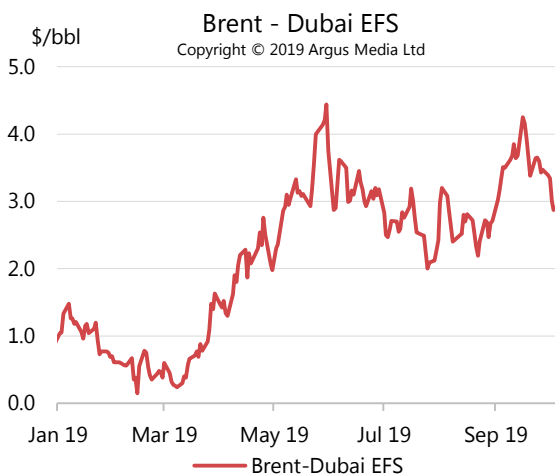
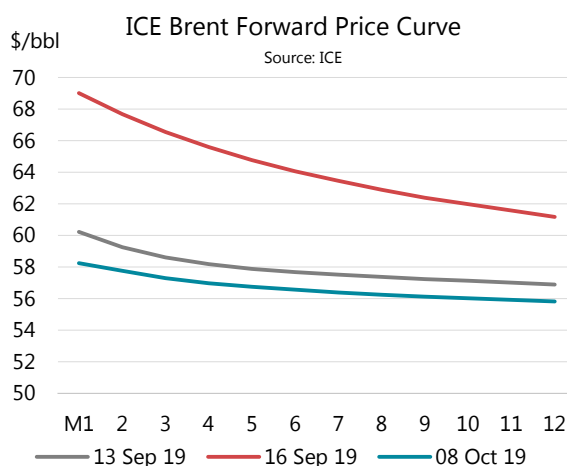
The impact of the disruption remains evident in product markets as Saudi Arabia, a significant product consumer and exporter, made domestic run cuts. Product markets were further tightened by run cuts in neighbouring Bahrain (due to reduced arrivals of Saudi crude), as a tropical storm hampered refining activity on the US Gulf Coast and due to refinery maintenance in the US and Asia Pacific.



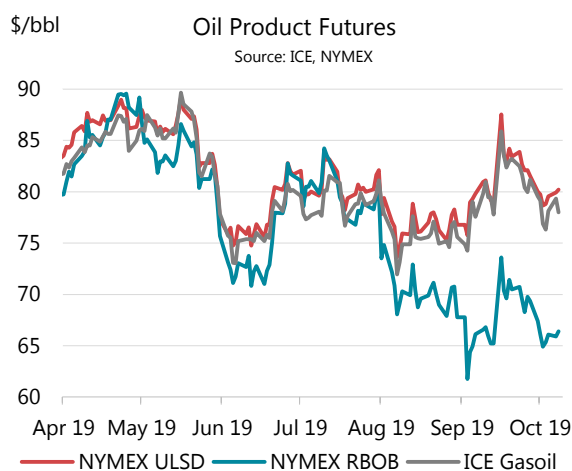
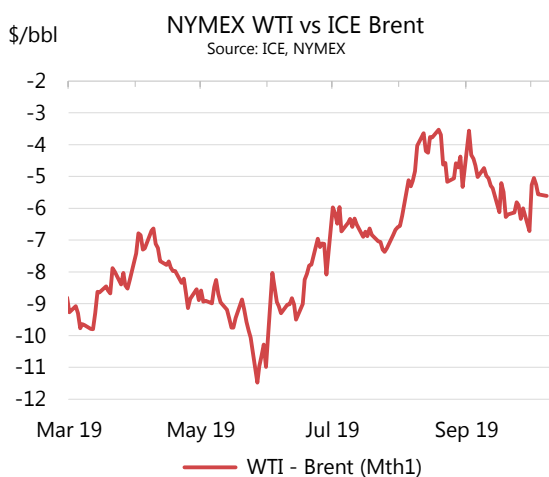
Futures markets

ICE Brent and NYMEX WTI futures rose in September, by \$2.79/bbl and \$2.13/bbl month-on-month (m-o-m), respectively. Since spiking on 16 September following attacks on Saudi Arabia, futures prices have declined by over \$10/bbl to two-month lows. The oil supply disruption boosted the price premium for available prompt barrels. The price spread for Brent delivered in November (month-1) vs. January 2020 (month-3) rose to \$2.47/bbl on

16 September, the highest since May 2019. This backwardation in prices narrowed as further information regarding the outage became available. By early October the three-month spread had fallen to \$0.95/bbl and prices for delivery throughout 2020 were around \$1-\$2/bbl below the level immediately prior to the attacks.



The Brent-Dubai Exchange of Futures for Swaps (EFS) rose by \$0.57/bbl on the 16 September to \$4.25/bbl. These gains were reversed in the following days as prices eased and Dubai held up better than the other benchmarks. However, at around \$3/bbl in early-October, the Brent-Dubai EFS remains relatively high. In September, WTI's discount to Brent widened by \$0.66/bbl m-o-m as refinery maintenance and storm-related outages in the US weighed on prices there. The spread averaged \$5.32/bbl in September, having narrowed from \$11.48/bbl at the end of May as US infrastructure constraints have eased with the commissioning of several new pipelines.



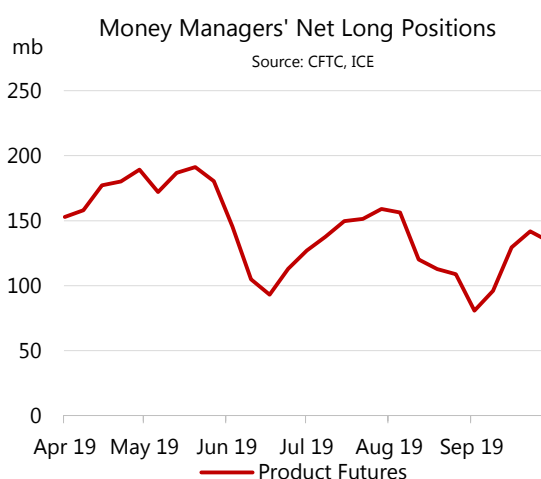
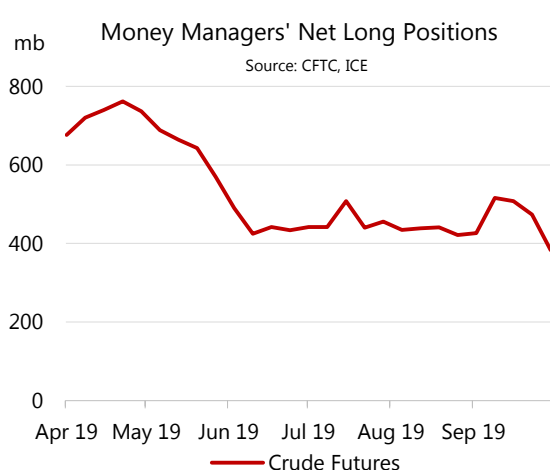
Oil product futures diverged in September. NYMEX ultra-low sulphur diesel (ULSD) and ICE gasoil gained \$4.56/bbl and \$4.42/bbl m-o-m, respectively. Saudi imports of gasoil added to abiding middle distillate market tensions as refiners undertook a substantial maintenance season ahead of the implementation of the International Maritime Organisation's (IMO) new shipping fuel regulations. These come into effect in January 2020 and will cause an increase in diesel demand, at the expense of high sulphur fuel oil (HSFO), in the shipping industry. NYMEX RBOB declined by \$2.47/bbl m-o-m in September, as prices fell with the switch to cheaper winter-grade fuel. Subsequent to the spike in refined product futures after attacks on

Saudi Arabia, on 20 September flooding in the US Gulf Coast caused by Tropical Storm Imelda forced some refineries to temporarily suspend activity and this provided some support for NYMEX ULSD and RBOB.

Prompt Month Oil Futures Prices										
(monthly and weekly averages, \$/bbl)										
	Jul	Aug	Sep	Sep-Aug Avg Chg	% Chg	Week Commencing:				
						02 Sep	09 Sep	16 Sep	23 Sep	30 Sep
NYMEX										
Light Sweet Crude Oil	57.55	54.84	56.97	2.13	3.9	55.76	56.19	59.31	56.95	53.12
RBOB	79.77	70.34	67.87	-2.47	-3.5	64.30	65.95	71.10	69.52	65.97
ULSD	80.68	76.83	81.39	4.56	5.9	78.46	80.01	84.32	82.45	79.36
ULSD (\$/mmbtu)	14.23	13.55	14.35	0.80	5.9	13.84	14.11	14.87	14.54	14.00
Henry Hub Natural Gas (\$/mmbtu)	2.30	2.17	2.52	0.35	15.9	2.43	2.58	2.61	2.47	2.31
ICE										
Brent	64.21	59.50	62.29	2.79	4.7	60.02	61.28	65.17	62.98	58.69
Gasoil	78.71	75.43	79.85	4.42	5.9	76.30	79.17	83.25	80.81	77.69
Prompt Month Differentials										
NYMEX WTI - ICE Brent	-6.66	-4.66	-5.32	-0.66		-4.26	-5.09	-5.86	-6.03	-5.57
NYMEX ULSD - WTI	23.13	21.99	24.42	2.43		22.70	23.82	25.01	25.50	26.24
NYMEX RBOB - WTI	22.22	15.50	10.90	-4.60		8.54	9.76	11.79	12.57	12.85
NYMEX 3-2-1 Crack (RBOB)	22.52	17.66	15.41	-2.25		13.26	14.45	16.20	16.88	17.31
NYMEX ULSD - Natural Gas (\$/mmbtu)	11.93	11.38	11.83	0.46		11.40	11.53	12.26	12.07	11.69
ICE Gasoil - ICE Brent	14.50	15.93	17.56	1.63		16.28	17.89	18.08	17.83	19.00

Source: ICE, NYMEX.

In the week prior to the attacks on Saudi Arabia, money managers increased their net long positions in crude futures by 90 mb. This was the largest weekly gain in 13 months and took net length to 516 mb. However, by 1 October it fell 133 mb to 383 mb (the lowest level since January), as investors reduced positions anticipating higher oil prices, despite the events in Saudi Arabia. Indeed, the long-short ratio fell to 3.3:1 at the beginning of October, and has been below the long-term average of 6.2:1 since May. Ample oil inventories and a rapid recovery in Saudi crude exports mollified supply concerns, leaving sentiment dominated by fears of weakening oil demand growth. In September, hedge funds increased their net length in oil product futures by 66% to 134 mb. Net length in NYMEX ULSD and RBOB futures rose by 8.9 mb and 15.8 mb, respectively, while net length in ICE gasoil futures gained 28.7 mb.



Spot crude oil prices

Spot crude prices surged in the aftermath of the attacks on Saudi Arabia's production infrastructure. While prices subsequently eased, they fell less than futures, suggesting that physical market participants are more concerned about the ongoing impact of the attacks than speculators. While Saudi Arabia was able to meet its crude customers' requirements on a volume basis it was reported that some deliveries of Arab Light and Extra Light were replaced by Arab Medium and Heavy. The prices of some alternative lighter grades, such as Murban, ESPO and WTI Midland, were boosted as a result.

Spot crude oil prices and differentials

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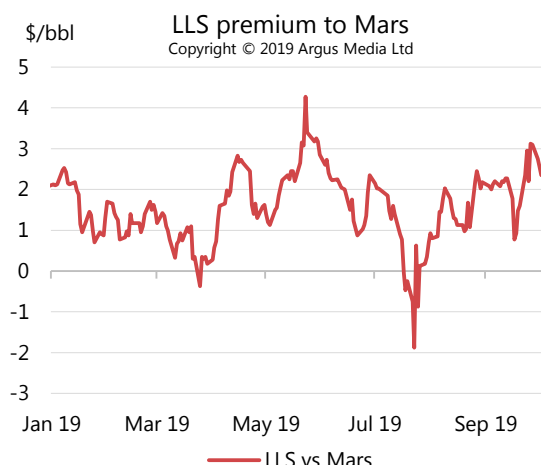
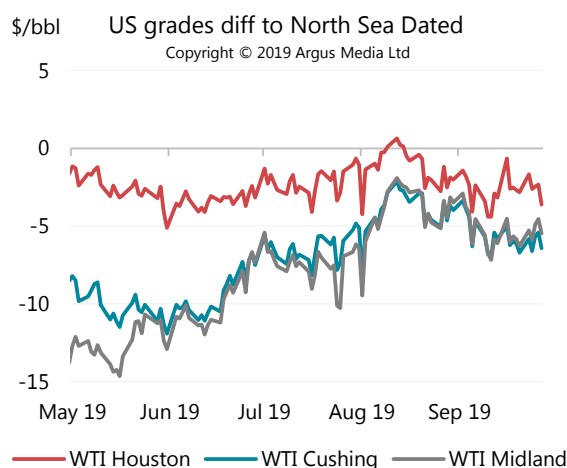
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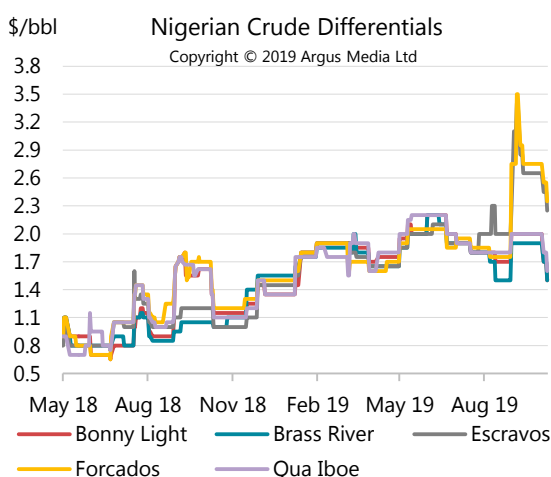
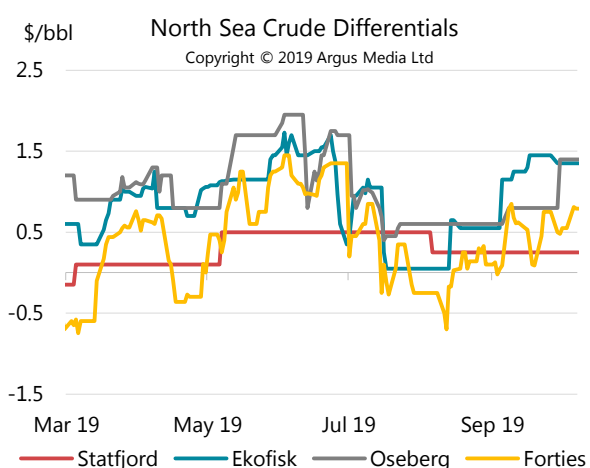
Prices for key US crudes fell against North Sea Dated in September as the narrower Brent-WTI spread and rising freight rates weighed on the economics of US exports. Also, more Permian crude is available for export following the recent commissioning of new pipelines. WTI Houston fell by \$1.56/bbl m-o-m, against North Sea Dated. In the Permian, WTI Midland gained by \$0.30/bbl m-o-m against Cushing to a premium of \$0.90/bbl as flows on new export infrastructure ramped up. In addition, some Asia Pacific refiners, for example in Vietnam and Sri Lanka, who are trying to reduce their exposure to Middle East supply uncertainties, sought WTI Midland.

A number of factors pushed the premium of Light Louisiana Sweet (LLS) vs. Mars to over \$3/bbl in late September, the highest since May. Demand for distillate-rich light crudes has risen, particularly ahead of the implementation of the IMO regulations. As well, the attacks on Saudi Arabia curtailed supplies of lighter crude. Furthermore, demand for sour crudes, such as Mars and Poseidon, was stymied by refinery maintenance and outages caused by Tropical Storm Imelda.

US refinery maintenance also weighed on demand for West Canadian Select (WCS). In Houston, the price of WCS declined by \$0.91/bbl m-o-m against Cushing. WCS priced in Hardisty fell by \$0.89/bbl m-o-m against Cushing as the Albertan government announced a further easing of production cuts for November and December. With Albertan production still limited to 3.76 mb/d, the discount to Cushing was around \$16/bbl, up from over \$50/bbl a year ago before the curtailments were introduced.

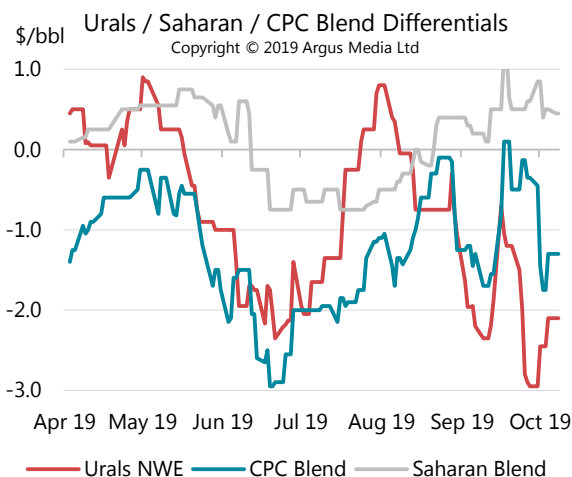
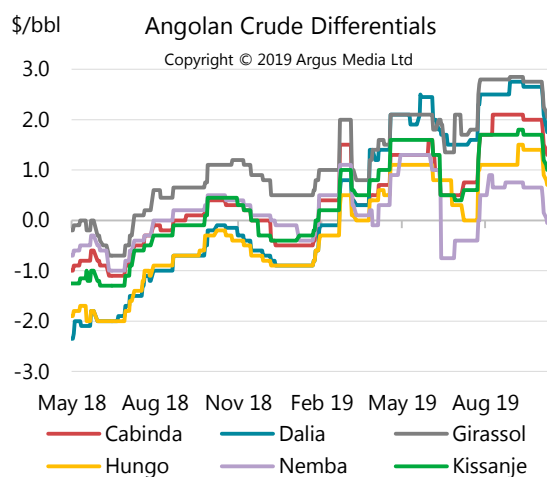


Differentials for crudes underpinning the North Sea Dated benchmark rose in September. Demand from Asia Pacific, in particular China, and local refiners seeking substitutes for Saudi Light grades lifted Forties differentials to North Sea Dated by \$0.51/bbl m-o-m, to two month highs. In early-October support came when CNOOC announced an unplanned shutdown of the 120 kb/d Buzzard field which is the largest contributor to the Forties stream. At the time of writing there was no indication when it would restart. Further gains may be limited as Forties supplies are set to increase and Saudi supplies have recovered. Preliminary loading programmes show that Forties exports will rise by 22% m-o-m in November (assuming the Buzzard outage is short-lived). In October, production from the Johan Sverdrup field in Norway started up, providing a significant boost to North Sea flows as it ramps up to capacity of 440 kb/d by mid-2020. With API of 28° and sulphur content of 0.8% Johan Sverdrup crude is heavier and slightly more sour than other North Sea streams.



Differentials for Forcados and Escravos gained \$1.03/bbl and \$0.77/bbl m-o-m against North Sea Dated, respectively, in September as demand for the gasoil-rich grades surged in the run up to the IMO regulations. Differentials were propelled to four-year highs on 6 September as Chinese refiners looked to Nigeria to replace Angolan exports that are set to fall to a 12-year low in November. Bonny Light and Qua Iboe gained a more modest \$0.25/bbl and \$0.19/bbl m-o-m against North Sea Dated, respectively, as they are better suited to gasoline production. Premia for Dalia and Girassol remained little changed in September, at or near the record levels recently achieved, with demand buoyant ahead of the IMO regulatory change.

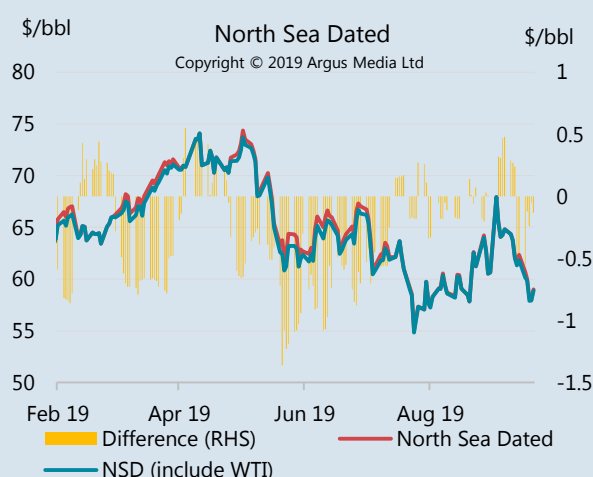
The differential for Urals in North West Europe spiked up by \$1.18/bbl on the 16 September as refiners scrambled for sour crude following the attacks in Saudi Arabia. However, the following day, the differential to North Sea Dated returned to the declining trend that started in early August and was down \$1.62/bbl on average m-o-m. Loading programmes show plentiful exports of Urals in September and October and demand continues to suffer from the Druzhba pipeline contamination of 2Q19. CPC Blend rose by \$1.65/bbl in the two days following the attacks on Saudi Arabia, and held on to most of the gains thanks to stronger light sour markets. However, in early October prices dipped when a revised loading programme showed higher prompt availabilities. The ESPO differential vs. Dubai averaged \$6.42/bbl in the two weeks since 16 September, up \$2/bbl above the premium in early September, and the highest in 15 years. Demand for the grade surged as Asian refiners sought to replace lost Saudi supplies. Saharan Blend gained \$0.56/bbl m-o-m against North Sea Dated in September. Prices have been on the rise since July as demand for the low sulphur crude has picked up ahead of the introduction of the IMO regulations. For similar reasons distillate-rich Azeri Light has seen support in recent months. Its differential was up \$0.15/bbl against North Sea Dated m-o-m in September. However, gains were capped by loading programmes that indicate higher availability in October.



Indicative of tighter regional markets in the wake of the attacks on Saudi Arabia, the premium of prompt Dubai prices to swaps rose by \$0.44/bbl m-o-m in September. In particular, differentials for lighter regional grades such as Murban (+\$0.31/bbl m-o-m) and Oman (+\$0.67/bbl m-o-m) saw strong demand in the immediate aftermath of the attacks as Asia Pacific refiners sought to secure supplies. Murban had already strengthened on the back of rising demand for sweeter crudes in anticipation of the new IMO regulations. At \$1.30/bbl above Dubai on 17 September, the premium was the widest since 2013. In early October, the strength in Middle East differentials faltered as Saudi Arabia's output recovered and on higher freight rates resulting from US sanctions on a key Chinese shipping company operating some 40 VLCCs.

Box 7. What's next for Dated Brent?

The change announced by *S&P Global Platts (Platts)* earlier in the year (see *January 2019* and *March 2019 OMR*) to include deals for North Sea crudes delivered to Rotterdam, adjusted for freight costs, in its Dated Brent benchmark comes into effect in October. This step is intended to increase the number of deals included in the price assessment and ensure that the price cannot be distorted by a lack of liquidity as underlying North Sea production declines. The benchmark price is set by the cheapest of the five crudes considered – Brent, Forties, Oseberg, Ekofisk and Troll – and quality escalators are applied where necessary so that the deals are comparable in terms of sulphur content. However, as the price of the delivered cargoes are unlikely to be below those on a fob (free on board) basis for the five North Sea grades already considered in the price discovery process, the immediate impact on the benchmark is likely to be limited. Significantly, however, this change does pave the way for other crudes to be included, potentially even ones not produced in the North Sea. If the role of the North Sea Dated benchmark is to reflect the market for light sweet crude in Europe, grades from West Africa, Azerbaijan and Algeria could be considered. While Urals has a higher sulphur content than typical North Sea supplies, it has been suggested as a candidate given its popularity with European refiners. WTI has also received plenty of attention given the huge increase in US crude exports to Europe, which averaged 2.9 mb/d in 1H19, and because it has



a similar quality to Forties. In February, rival price reporting agency *Argus Media* launched the “New North Sea Dated” price which incorporates Bonny Light, Qua Iboe, Escravos, BTC Blend, Saharan Blend and WTI Houston grades, along with the five North Sea crudes that make up North Sea Dated. So far, WTI has set the New North Sea Dated price 70% of the time, causing it to diverge from North Sea Dated by up to \$1.36/bbl (see chart). As the *Platts* North Sea benchmark is the most widely used in sale and purchase agreements, changes to the assessment

can have a material impact. *Platts* announced that it has no immediate plans for further changes but stated that “the inclusion of grades delivered on a CIF Rotterdam basis into the benchmark is an enabling step for other grades to be added, whether within or outside the region”, and is ready to adapt if necessary to keep its flagship product relevant. Meanwhile, North Sea production is set to get a boost as Norway’s Johan Sverdrup project starts-up. Flows from the giant field are set to reach 440 kb/d in mid-2020 and 660 kb/d when Phase 2 comes online in late 2022. Inclusion of this grade in the benchmark would certainly help liquidity but would likely be complicated as it is heavier and sourer than the other components. *Platts* has indicated that it will need time to assess Johan Sverdrup’s suitability.

Spot product prices

The 14 September attacks on Saudi Arabia impacted global product markets as the country is a significant net product exporter (over 1 mb/d, of which 400 kb/d are middle distillates). Domestic refinery run cuts were made to ensure that crude exports would see little disruption and Saudi Arabia became, temporarily, a net importer of products to meet demand. With lighter Saudi crude unavailable, it was gasoline that was in particularly short supply domestically. Meanwhile, product cracks were also boosted as output was constrained by Tropical Storm Imelda on the US Gulf Coast and seasonal maintenance in the US and Asia Pacific.

Spot product prices

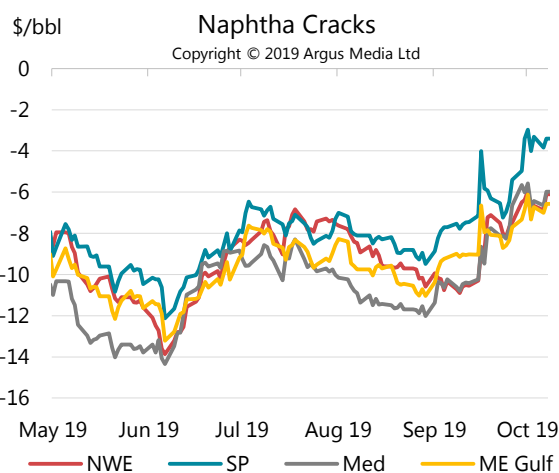
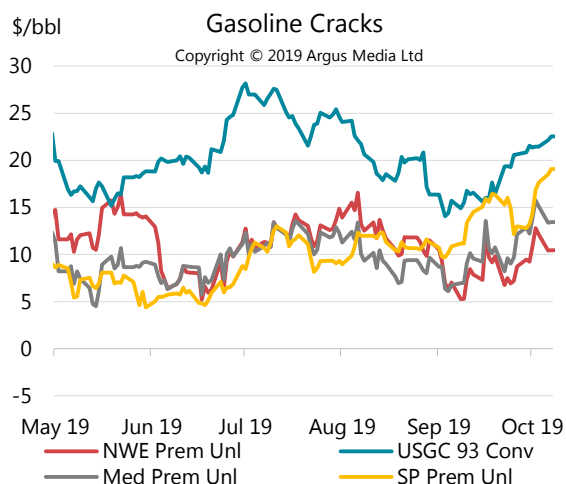
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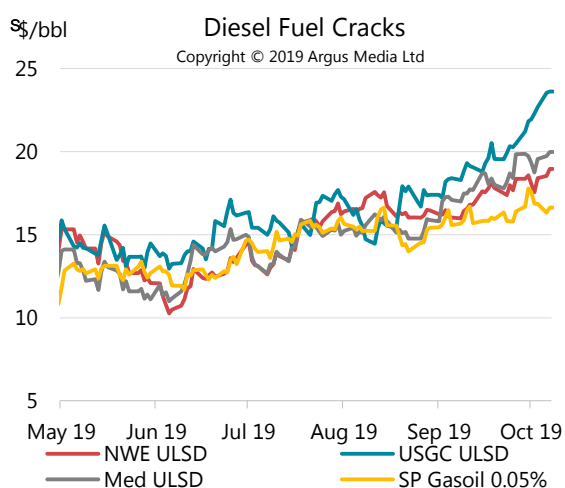
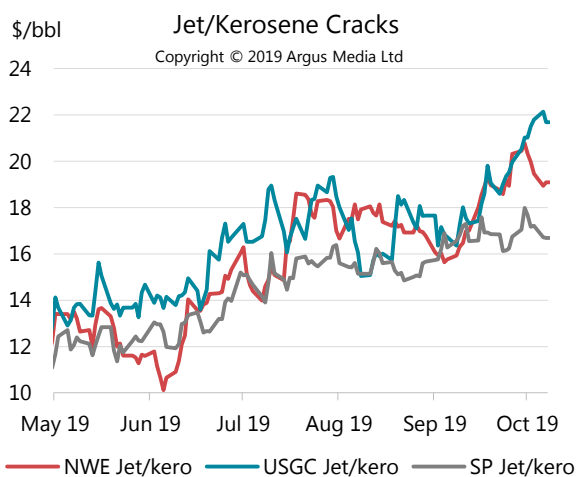
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In early September, easing US demand for European gasoline saw cracks for premium unleaded in North West Europe fall to their lowest level since mid-June. Gasoline flows to the US had been elevated in the aftermath of the closure of the Philadelphia Energy Solutions refinery in June. On 17 September, the emergence of Saudi Arabia as a gasoline buyer saw cracks for premium unleaded gasoline in North West Europe and the Mediterranean rise by around 50% but, with plentiful regional supplies, this was short-lived. Additionally, in Europe, the switch to cheaper winter-grade fuel saw Rotterdam barge quotes fall by \$4.42/bbl m-o-m against North Sea Dated. On the US Gulf Coast, cracks for super unleaded rose by \$6.81/bbl over September from a six-month low of \$14.05/bbl as refinery outages, due to flooding in Texas, and maintenance curtailed supplies. Higher demand from Brazil following a refinery fire also

provided support. In Singapore, healthy regional demand from India, Indonesia and China, along with Saudi Arabia, saw premium unleaded FOB cargoes gain \$2.30/bbl against Dubai m-o-m. However, thanks to the seemingly quick resolution to the Saudi situation and growing gasoline exports from China, cracks in Singapore have fallen to \$13/bbl, a level similar to that seen just before the attacks.



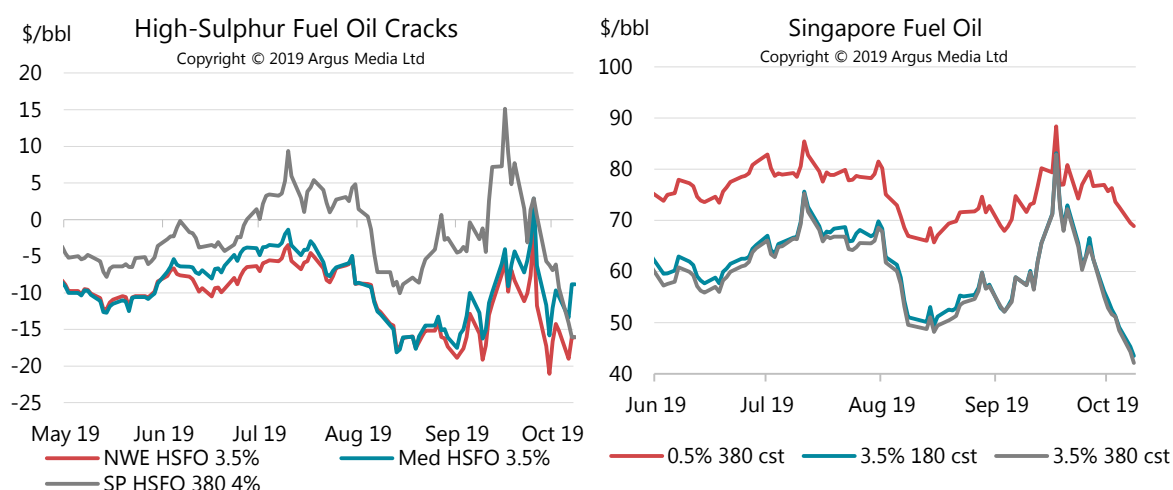
Typically, Saudi Arabia is a key provider of naphtha to Asia Pacific and the disruption to supplies caused cracks in Singapore to gain over \$3/bbl on 17 September. The gains largely held as maintenance has also tightened supplies from India, Indonesia and Japan while demand from petrochemical facilities in Korea and Taiwan was buoyant. Cracks for Singapore FOB cargoes rose by \$1.49/bbl m-o-m against Dubai. With further tightness possible when a condensate splitter in Qatar undergoes maintenance in November, the spread between front-month (November) and third-month swap contracts widened to the highest in one year. Asia Pacific buyers looked to Europe for additional supplies and cracks in North West Europe and the Mediterranean rose by \$4.10/bbl (against North Sea Dated) and \$6.36/bbl (against Urals), respectively, over September.



The disruption of Saudi Arabia's jet exports had a significant impact on the market in Europe as it usually provides around a fifth of the region's supplies. With the peak travel season over, demand, and cracks, had been easing but by the end of September Rotterdam barge quotes had risen to \$20.44/bbl above North Sea Dated, a ten-month high. Cracks on the US Gulf Coast received an additional boost as Tropical Storm Imelda caused some refinery shut-ins. While

cracks in Singapore had risen to a ten-month high in early-September, the response to the events in Saudi Arabia was more muted as regional demand is seasonally slower. Demand for kerosene for heating will pick up in the winter but, outside a few countries, this is a small market.

Several factors pushed global diesel and gasoil cracks higher in September. The market is transitioning to the IMO regulations which will boost diesel demand at the expense of HSFO. In North West Europe, a dip in Russian exports due to maintenance had already tightened the market and, as Saudi Arabia typically meets 20% of European imports, prices responded quickly following the attacks. Cracks for ultra-low sulphur diesel (ULSD) in Rotterdam and the Mediterranean rose by \$1.90/bbl and \$3.99/bbl, respectively, over the month. On the US Gulf Coast, ULSD cracks were up \$2.86/bbl m-o-m, helped by higher demand from Brazil due to a refinery fire. In Singapore, cracks for 0.05% gasoil rose by \$0.72/bbl m-o-m, with high Chinese exports and lacklustre demand, possibly due to stalling economic activity, offsetting the Saudi impact. However, backwardation in Asia Pacific gasoil moved to the steepest in almost six years indicating prompt supply tightness as Saudi concerns lingered.

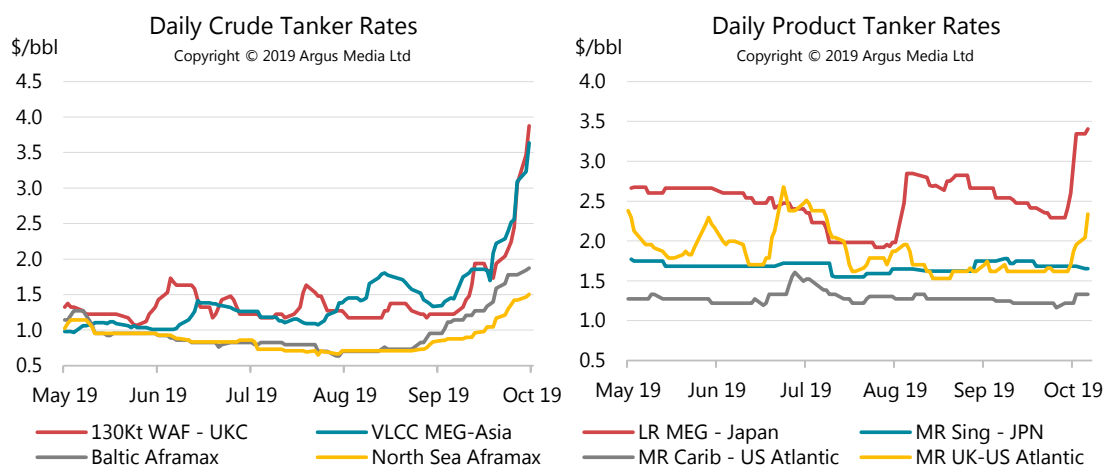


Of the refined products, cracks for fuel oil saw the largest gains in September with the fall-out from the attacks on Saudi Arabia exacerbating recent volatility. Even as demand for HSFO is set to fall when the new IMO rules take effect, cracks for 180-centistoke HSFO and 380-centistoke HSFO in Singapore rose by \$4.95/bbl and \$5.74/bbl m-o-m, respectively. Cracks hit record highs in July before falling to five year lows in August then rose to \$7/bbl on 13 September as supplies have dwindled before the regulatory change has fully impacted demand. In efforts to prepare for the new regulations, refiners have been reducing their HSFO production and supply has also been hampered by storage tank cleaning. Following the attacks on Saudi Arabia, cracks in Singapore rocketed to \$15/bbl but Saudi reassurances that the impact would be short-lived saw prices swiftly retreat. Meanwhile, the low sulphur fuel oil (LSFO) market has seen prices swing dramatically on a daily basis. As the IMO regulatory change will boost demand for LSFO, its premium to HSFO rose to over \$25/bbl on 7 October as HSFO prices in Singapore fell to their lowest in over two years. The LSFO-HSFO price spread was around \$10/bbl on average from January to August.

Freight

Rates for VLCCs travelling from the Middle East Gulf gained \$0.31/bbl (21%) immediately following the attacks on Saudi Arabia as refiners sought alternative feedstocks and ships that could deliver them. Subsequently, the announcement on 26 September that the US would impose sanctions on COSCO, a Chinese shipping company, saw rates rocket to \$2.22/bbl. By 8 October, rates had risen to \$3.63/bbl, the highest in over ten years. There is uncertainty surrounding how the sanctions will be enforced but around 40 VLCCs may be impacted according to *Barry Rogliano Salles Group*. It is thought that about 700 VLCCs are active in total and enforcement of the sanctions will significantly tighten the availability of vessels. On 4 October, reports emerged that ExxonMobil would stop chartering tankers that have been to Venezuela in the last year. Venezuela has been subject to US sanctions since 29 January and since then over 100 ships have been used to export its crude according to data from *Kpler*. Other reports have suggested that 250 vessels could be impacted. The news lifted freight rates and further momentum could follow if other larger charterers adopt the same policy.

Rates for Suezmax vessels transporting crude from West Africa rose by 58% to \$1.94/bbl in the week following the attacks as demand from the UK-Continent for West Africa supplies emerged. On 8 October rates had gained a further \$1.94/bbl to \$3.88/bbl, almost three times the 1H19 average, as this market will also be impacted by the COSCO sanctions. Rates to transport crude on Aframaxes in the North Sea and Baltic rose by \$0.21/bbl and \$0.46/bbl m-o-m, respectively, also drawing support in the wake of the attacks. Norway's Johan Sverdrup field started production in early October and will provide a significant boost to North Sea oil output and Aframax demand.



Market developments in September had a more muted impact on clean tanker markets. It is not entirely clear to what extent Saudi Arabia had to reduce its product exports when domestic run cuts were made following the attacks but lower shipments weighed on Long Range (LR) vessel demand and rates on the Middle East Gulf to Japan route declined by \$0.18/bbl m-o-m. On the other hand, as Saudi Arabia had to increase imports of products to meet domestic demand there was, overall, neither a large increase nor decrease in ship demand following the attacks. In the first week of October, LR rates rose by over \$1/bbl (46%). COSCO is thought to own around 4% of the LR₁ fleet so sanctions against the company could reduce ship availability. The end of the peak demand season for gasoline in the US saw reduced imports from Europe and rates for Medium Range (MR) vessels travelling to the US Atlantic remained depressed, at \$1.63/bbl on average, in September.

TABLES

Table 1
WORLD OIL SUPPLY AND DEMAND
(million barrels per day)

	2016	2017	1Q18	2Q18	3Q18	4Q18	2018	1Q19	2Q19	3Q19	4Q19	2019	1Q20	2Q20	3Q20	4Q20	2020
OECD DEMAND																	
Americas	24.9	25.1	25.3	25.3	25.9	25.6	25.5	25.3	25.4	26.0	26.0	25.7	25.3	25.6	26.3	26.2	25.9
Europe	14.0	14.4	14.1	14.2	14.7	14.1	14.3	13.9	14.0	14.7	14.3	14.2	13.9	14.1	14.7	14.3	14.3
Asia Oceania	8.1	8.1	8.7	7.7	7.8	8.1	8.1	8.3	7.5	7.7	8.2	7.9	8.4	7.5	7.7	8.3	8.0
Total OECD	47.1	47.6	48.0	47.3	48.3	47.8	47.8	47.6	46.9	48.4	48.5	47.8	47.6	47.3	48.8	48.8	48.1
NON-OECD DEMAND																	
FSU	4.4	4.5	4.5	4.6	4.9	4.8	4.7	4.6	4.8	5.1	5.0	4.9	4.7	4.9	5.2	5.0	4.9
Europe	0.7	0.7	0.7	0.7	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
China	12.0	12.5	12.7	13.0	13.1	13.1	13.0	13.0	13.7	13.6	13.7	13.5	13.3	14.0	14.0	13.9	13.8
Other Asia	13.2	13.7	14.1	14.3	13.7	14.2	14.1	14.5	14.3	14.0	14.6	14.3	14.9	14.8	14.4	15.1	14.8
Americas	6.5	6.4	6.3	6.3	6.5	6.4	6.4	6.3	6.3	6.5	6.4	6.4	6.3	6.4	6.5	6.5	6.4
Middle East	8.4	8.4	8.1	8.4	8.7	8.2	8.3	8.1	8.2	8.7	8.1	8.3	8.0	8.3	8.8	8.2	8.3
Africa	4.2	4.2	4.3	4.2	4.1	4.3	4.2	4.3	4.3	4.2	4.3	4.3	4.4	4.4	4.3	4.4	4.4
Total Non-OECD	49.3	50.6	50.7	51.6	51.8	51.7	51.5	51.6	52.4	52.9	52.9	52.4	52.4	53.5	53.8	53.9	53.4
Total Demand¹	96.4	98.2	98.7	98.9	100.0	99.5	99.3	99.1	99.4	101.3	101.4	100.3	100.0	100.8	102.6	102.7	101.5
OECD SUPPLY																	
Americas	19.6	20.5	22.0	22.3	23.5	24.2	23.0	24.0	24.5	24.5	25.2	24.5	25.6	25.8	25.9	26.3	25.9
Europe	3.5	3.5	3.6	3.4	3.3	3.5	3.5	3.5	3.2	3.1	3.4	3.3	3.6	3.7	3.6	3.8	3.7
Asia Oceania	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.5	0.5	0.6	0.5	0.6	0.6	0.6	0.6	0.6
Total OECD⁴	23.5	24.4	25.9	26.1	27.2	28.2	26.9	27.9	28.2	28.1	29.2	28.3	29.8	30.1	30.2	30.7	30.2
NON-OECD SUPPLY																	
FSU	14.2	14.3	14.4	14.4	14.6	14.8	14.6	14.8	14.4	14.6	14.6	14.6	14.6	14.6	14.6	14.6	14.6
Europe	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
China	4.0	3.9	3.8	3.9	3.8	3.9	3.8	3.9	4.0	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9
Other Asia	3.6	3.5	3.4	3.4	3.3	3.3	3.4	3.3	3.3	3.2	3.2	3.2	3.2	3.1	3.1	3.1	3.1
Americas	4.5	4.6	4.5	4.6	4.4	4.6	4.5	4.5	4.6	4.9	5.0	4.7	5.0	5.1	5.1	5.1	5.1
Middle East	3.3	3.2	3.2	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3
Africa	1.4	1.4	1.4	1.5	1.5	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.5	1.5	1.5	1.5	1.5
Total Non-OECD⁴	31.1	31.0	30.9	31.1	31.0	31.5	31.1	31.4	31.0	31.4	31.5	31.3	31.6	31.6	31.5	31.6	31.6
Processing gains 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	2.4	2.4	2.4	2.4	2.4
Global Biofuels	2.4	2.5	2.1	2.8	3.1	2.5	2.6	2.2	2.9	3.2	2.6	2.7	2.4	2.9	3.2	2.8	2.8
Total Non-OPEC Supply	59.3	60.1	61.3	62.2	63.6	64.5	62.9	63.9	64.4	65.1	65.7	64.8	66.2	67.0	67.3	67.5	67.0
OPEC²																	
Crude	32.4	32.0	31.7	31.6	32.0	32.2	31.9	30.7	30.0	29.4							
NGLs	5.4	5.5	5.5	5.5	5.5	5.5	5.5	5.6	5.6	5.5	5.5	5.5	5.6	5.6	5.6	5.6	5.6
Total OPEC	37.8	37.5	37.2	37.1	37.6	37.7	37.4	36.2	35.6	34.9							
Total Supply	97.0	97.6	98.6	99.3	101.2	102.2	100.3	100.1	100.1	99.9							
STOCK CHANGES AND MISCELLANEOUS																	
Reported OECD																	
Industry	0.0	-0.4	-0.3	0.0	0.6	0.1	0.1	0.1	0.6								
Government	0.0	-0.1	0.0	0.0	0.0	-0.2	-0.1	0.1	-0.1								
Total	0.0	-0.5	-0.2	-0.1	0.5	-0.1	0.0	0.1	0.6								
Floating storage/Oil in transit	0.2	0.4	-1.0	0.3	-0.3	0.6	0.0	-0.3	-0.5								
Miscellaneous to balance ⁵	0.5	-0.4	1.1	0.2	0.9	2.2	1.1	1.1	0.6								
Total Stock Ch. & Misc	0.6	-0.5	-0.2	0.4	1.2	2.7	1.0	1.0	0.7	-1.3							
Memo items:																	
Call on OPEC crude + Stock ch. ⁶	31.7	32.5	31.9	31.2	30.9	29.5	30.8	29.7	29.4	30.8	30.2	30.0	28.2	28.2	29.7	29.7	29.0

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 OPEC data based on today's membership throughout the time series.

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)

	2016	2017	1Q18	2Q18	3Q18	4Q18	2018	1Q19	2Q19	3Q19	4Q19	2019	1Q20	2Q20	3Q20	4Q20	2020
OECD DEMAND																	
Americas	-	-	0.1	-	0.1	-	0.1	0.1	-	-	0.1	-	0.1	-0.1	-	0.1	-
Europe	-	-	-	-	-	-	-	-	-	-0.1	-	-	-	-	-	-	-
Asia Oceania	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-0.1	-
Total OECD	-	-	0.1	-	0.1	-	0.1	0.1	-	-0.1	-	-	-	-0.2	-0.1	-	-0.1
NON-OECD DEMAND																	
FSU	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Europe	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
China	-	-	-	-	-	-	-	-	-	0.1	-	-	-	-	0.1	-	-
Other Asia	-	-	-	-	-	-	-	-	-	-0.1	-0.1	-0.1	-	-0.1	-0.1	-0.1	-0.1
Americas	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Middle East	-	-	-	-	-	-	-	-	-	0.1	-	-	-	-	0.1	0.1	-
Africa	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total Non-OECD	-	-	-	-	-	-	-	-	-	0.1	-0.1	-	-0.1	-	-	-0.1	-0.1
Total Demand	-	-	0.1	-	0.1	-	-	-	-	-	-0.1	-	-0.1	-0.2	-0.1	-0.1	-0.1
OECD SUPPLY																	
Americas	-	-	-	-	-	-	-	-	-	-0.2	-0.1	-0.1	-	-0.1	-0.1	-0.1	-0.1
Europe	-	-	-	-	-	-	-	-	-	-	-0.1	-	-	-	-	-	-
Asia Oceania	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.1	-
Total OECD	-	-	-	-	-	-	-	-	-	-0.2	-0.1	-0.1	-	-0.1	-0.1	-0.1	-0.1
NON-OECD SUPPLY																	
FSU	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Europe	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
China	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.1	0.1	-
Other Asia	-	-	-	-	-	-	-	-	-	-0.1	-	-	-	-	-	-	-
Americas	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Middle East	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Africa	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total Non-OECD	-	-	-	-	-	-	-	-	-	-	0.1	-	-	-	-	-	-
Processing gains	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Global Biofuels	-	-	-	-	-	-	-	-	-	0.1	0.1	-	-	-	-	-	-
Total Non-OPEC Supply	-	-	-	-	-	-	-	-	-	-0.1	-	-	-	-0.1	-0.1	-	-0.1
OPEC																	
Crude	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
NGLs	-	-	-	-	-	-	-	-	-	-0.1	-	-	-	-	-	-	-
Total OPEC	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total Supply	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
STOCK CHANGES AND MISCELLANEOUS																	
REPORTED OECD																	
Industry	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Government	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Floating storage/Oil in transit	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Miscellaneous to balance	-	-	-0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total Stock Ch. & Misc	-	-	-0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Memo items:																	
Call on OPEC crude + Stock ch.	-	-	0.1	-	-	-	-	-	-	0.1	-0.1	-	-	-0.1	-	-	-0.1

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

Table 2
SUMMARY OF GLOBAL OIL DEMAND

	2017	1Q18	2Q18	3Q18	4Q18	2018	1Q19	2Q19	3Q19	4Q19	2019	1Q20	2Q20	3Q20	4Q20	2020
Demand (mb/d)																
Americas	25.07	25.31	25.33	25.86	25.60	25.53	25.33	25.41	26.02	26.00	25.69	25.30	25.64	26.31	26.23	25.87
Europe	14.38	14.06	14.20	14.66	14.09	14.25	13.89	14.02	14.69	14.26	14.22	13.92	14.14	14.71	14.33	14.28
Asia Oceania	8.15	8.66	7.73	7.75	8.10	8.06	8.33	7.49	7.71	8.21	7.94	8.38	7.50	7.73	8.26	7.97
Total OECD	47.60	48.03	47.27	48.27	47.78	47.84	47.55	46.93	48.42	48.48	47.85	47.59	47.28	48.76	48.82	48.12
Asia	26.20	26.80	27.26	26.83	27.26	27.04	27.49	28.01	27.63	28.24	27.84	28.23	28.77	28.36	29.04	28.60
Middle East	8.38	8.08	8.42	8.69	8.16	8.34	8.13	8.21	8.69	8.13	8.29	8.02	8.32	8.75	8.19	8.32
Americas	6.45	6.31	6.33	6.47	6.43	6.38	6.25	6.35	6.49	6.45	6.38	6.26	6.38	6.50	6.47	6.41
FSU	4.55	4.50	4.62	4.89	4.82	4.71	4.63	4.75	5.08	4.96	4.86	4.72	4.86	5.15	4.98	4.93
Africa	4.23	4.29	4.24	4.11	4.26	4.23	4.31	4.34	4.18	4.33	4.29	4.38	4.40	4.25	4.40	4.36
Europe	0.75	0.73	0.74	0.77	0.79	0.76	0.76	0.78	0.79	0.80	0.78	0.77	0.78	0.80	0.82	0.79
Total Non-OECD	50.56	50.71	51.62	51.76	51.72	51.46	51.56	52.44	52.87	52.90	52.45	52.38	53.52	53.81	53.90	53.40
World	98.16	98.74	98.89	100.03	99.50	99.29	99.11	99.37	101.29	101.38	100.30	99.97	100.80	102.57	102.72	101.52
of which: US50	19.96	20.35	20.36	20.71	20.59	20.50	20.31	20.35	20.85	20.86	20.60	20.28	20.60	21.08	21.01	20.74
Europe 5*	8.32	8.22	8.24	8.34	8.17	8.24	8.10	8.09	8.39	8.19	8.19	8.05	8.10	8.32	8.21	8.17
China	12.49	12.70	12.96	13.14	13.09	12.97	13.03	13.72	13.62	13.65	13.51	13.31	13.98	13.95	13.93	13.80
Japan	3.92	4.31	3.46	3.56	3.92	3.81	4.09	3.41	3.50	3.91	3.72	4.02	3.34	3.47	3.87	3.68
India	4.66	4.91	5.03	4.62	4.89	4.86	5.14	5.06	4.81	5.12	5.03	5.32	5.29	4.96	5.35	5.23
Russia	3.39	3.36	3.43	3.68	3.60	3.52	3.47	3.55	3.86	3.67	3.64	3.53	3.62	3.89	3.68	3.68
Brazil	3.03	2.97	2.94	3.10	3.11	3.03	3.01	3.05	3.20	3.19	3.11	3.06	3.12	3.22	3.22	3.15
Saudi Arabia	3.30	2.96	3.21	3.35	2.99	3.13	2.96	3.05	3.38	3.01	3.10	2.81	3.08	3.33	2.97	3.05
Canada	2.42	2.34	2.37	2.58	2.51	2.45	2.43	2.40	2.58	2.57	2.50	2.44	2.40	2.61	2.64	2.52
Korea	2.63	2.73	2.64	2.58	2.53	2.62	2.63	2.48	2.58	2.64	2.58	2.72	2.53	2.62	2.70	2.64
Mexico	2.02	1.91	1.94	1.89	1.80	1.89	1.88	1.98	1.91	1.86	1.91	1.85	1.97	1.93	1.88	1.91
Iran	1.92	1.98	1.98	1.98	1.98	1.98	1.99	1.95	1.94	1.93	1.95	2.01	1.96	1.95	1.93	1.96
Total	68.07	68.74	68.56	69.54	69.20	69.01	69.02	69.09	70.61	70.61	69.84	69.40	69.98	71.34	71.38	70.53
% of World	69.3%	69.6%	69.3%	69.5%	69.5%	69.5%	69.6%	69.5%	69.7%	69.6%	69.6%	69.4%	69.4%	69.6%	69.5%	69.5%
Annual Change (% per annum)																
Americas	0.7	2.8	0.8	2.8	1.0	1.8	0.1	0.3	0.6	1.6	0.7	-0.1	0.9	1.1	0.9	0.7
Europe	2.5	1.2	-1.0	-1.0	-2.7	-0.9	-1.2	-1.3	0.2	1.2	-0.2	0.2	0.8	0.1	0.5	0.4
Asia Oceania	0.1	1.2	-0.4	-1.6	-3.7	-1.1	-3.7	-3.1	-0.5	1.4	-1.5	0.5	0.1	0.3	0.5	0.4
Total OECD	1.1	2.0	0.1	0.9	-0.9	0.5	-1.0	-0.7	0.3	1.5	0.0	0.1	0.8	0.7	0.7	0.6
Asia	4.1	3.5	2.6	3.9	2.8	3.2	2.6	2.7	3.0	3.6	3.0	2.7	2.7	2.6	2.8	2.7
Middle East	0.1	-0.2	-1.5	-0.7	0.6	-0.5	0.6	-2.5	0.0	-0.4	-0.6	-1.4	1.3	0.7	0.8	0.4
Americas	-0.3	0.0	-1.5	-1.6	-0.7	-1.0	-0.9	0.3	0.3	0.3	0.0	0.2	0.6	0.2	0.4	0.3
FSU	2.5	4.1	2.1	2.9	5.0	3.5	2.9	3.0	4.0	2.9	3.2	2.0	2.3	1.3	0.5	1.5
Africa	1.5	-0.6	-0.2	-0.8	0.9	-0.2	0.4	2.3	1.7	1.5	1.5	1.6	1.4	1.7	1.7	1.6
Europe	3.2	2.4	-1.0	1.3	4.5	1.8	3.2	4.3	2.7	1.1	2.8	1.1	0.9	0.9	2.1	1.2
Total Non-OECD	2.5	2.1	1.1	1.9	2.1	1.8	1.7	1.6	2.1	2.3	1.9	1.6	2.1	1.8	1.9	1.8
World	1.8	2.1	0.6	1.4	0.6	1.2	0.4	0.5	1.3	1.9	1.0	0.9	1.4	1.3	1.3	1.2
Annual Change (mb/d)																
Americas	0.18	0.69	0.20	0.70	0.25	0.46	0.02	0.08	0.16	0.40	0.17	-0.04	0.23	0.29	0.23	0.18
Europe	0.35	0.16	-0.15	-0.14	-0.39	-0.13	-0.17	-0.18	0.03	0.18	-0.03	0.03	0.12	0.02	0.07	0.06
Asia Oceania	0.01	0.10	-0.03	-0.12	-0.31	-0.09	-0.32	-0.24	-0.04	0.12	-0.12	0.04	0.01	0.02	0.04	0.03
Total OECD	0.54	0.95	0.03	0.43	-0.45	0.24	-0.48	-0.34	0.15	0.70	0.01	0.04	0.35	0.34	0.34	0.27
Asia	1.04	0.91	0.68	1.01	0.74	0.84	0.68	0.75	0.80	0.98	0.80	0.75	0.76	0.72	0.80	0.76
Middle East	0.01	-0.02	-0.12	-0.06	0.05	-0.04	0.05	-0.21	0.00	-0.03	-0.05	-0.11	0.10	0.06	0.06	0.03
Americas	-0.02	0.00	-0.10	-0.11	-0.04	-0.06	-0.06	0.02	0.02	0.02	0.00	0.01	0.04	0.01	0.03	0.02
FSU	0.11	0.18	0.10	0.14	0.23	0.16	0.13	0.14	0.20	0.14	0.15	0.09	0.11	0.07	0.02	0.07
Africa	0.06	-0.03	-0.01	-0.04	0.04	-0.01	0.02	0.10	0.07	0.06	0.06	0.07	0.06	0.07	0.07	0.07
Europe	0.02	0.02	-0.01	0.01	0.03	0.01	0.02	0.03	0.02	0.01	0.02	0.01	0.01	0.01	0.02	0.01
Total Non-OECD	1.22	1.06	0.54	0.95	1.04	0.90	0.85	0.82	1.11	1.18	0.99	0.82	1.08	0.94	1.00	0.96
World	1.76	2.01	0.57	1.38	0.60	1.14	0.37	0.48	1.26	1.87	1.00	0.86	1.43	1.28	1.34	1.22
Revisions to Oil Demand from Last Month's Report (mb/d)																
Americas	0.00	0.11	0.02	0.08	-0.01	0.05	0.06	-0.02	-0.01	0.07	0.03	0.08	-0.10	-0.02	0.08	0.01
Europe	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	-0.08	-0.03	-0.03	-0.03	-0.02	-0.03	-0.03	-0.03
Asia Oceania	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-0.04	-0.01	-0.04	-0.05	-0.05	-0.06	-0.05
Total OECD	-0.00	0.11	0.02	0.08	-0.01	0.05	0.06	-0.01	-0.09	-0.00	-0.01	0.01	-0.17	-0.10	-0.01	-0.07
Asia	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-0.01	-0.01	-0.08	-0.02	-0.02	-0.03	-0.07	-0.10	-0.06
Middle East	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	-0.01	0.01	0.00	0.01	0.05	0.07	0.03
Americas	0.00	-0.01	-0.01	-0.01	-0.01	-0.01	0.02	0.01	0.02	0.03	0.02	-0.01	0.00	0.00	0.01	0.00
FSU	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	-0.01	0.01	-0.01	-0.01	0.02	-0.01	0.00
Africa	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	-0.03	-0.02	-0.01	-0.01	0.00	-0.03	-0.02	-0.02
Europe	0.00	0.00	0.00	0.00	-0.01	0.00	-0.05	0.00	0.00	-0.01	-0.02	-0.05	0.00	0.00	-0.02	-0.02
Total Non-OECD	-0.00	-0.01	-0.01	-0.01	-0.02	-0.01	-0.03	0.01	0.07	-0.10	-0.01	-0.09	-0.04	-0.02	-0.07	-0.06
World	-0.00	0.10	0.01	0.08	-0.02	0.04	0.03	0.00	-0.01	-0.11	-0.02	-0.09	-0.21	-0.13	-0.08	-0.13
Revisions to Oil Demand Growth from Last Month's Report (mb/d)																
World	0.00	0.10	0.02	0.08	-0.02	0.05	-0.07	-0.01	-0.09	-0.08	-0.06	-0.11	-0.21	-0.11	0.02	-0.10

* France, Germany, Italy, Spain and UK

Table 2a
OECD REGIONAL OIL DEMAND¹
(million barrels per day)

	2017	2018	3Q18	4Q18	1Q19	2Q19	May 19	Jun 19	Jul 19 ²	Latest month vs.	
										Jun 19	Jul 18
Americas											
LPG and ethane	3.39	3.69	3.55	3.78	4.15	3.41	3.36	3.34	3.63	0.30	0.09
Naphtha	0.31	0.31	0.33	0.33	0.30	0.28	0.27	0.26	0.25	-0.01	-0.08
Motor gasoline	11.08	11.09	11.31	11.04	10.68	11.26	11.18	11.49	11.28	-0.21	-0.11
Jet and kerosene	1.98	2.03	2.12	2.01	1.97	2.09	2.08	2.12	2.17	0.05	0.05
Gasoil/diesel oil	5.15	5.32	5.24	5.40	5.44	5.19	5.28	5.13	5.02	-0.11	-0.11
Residual fuel oil	0.66	0.61	0.65	0.60	0.62	0.58	0.52	0.65	0.65	0.00	-0.03
Other products	2.51	2.48	2.66	2.44	2.18	2.61	2.67	2.67	2.84	0.17	0.21
Total	25.07	25.53	25.86	25.60	25.33	25.41	25.36	25.67	25.85	0.19	0.03
Europe											
LPG and ethane	1.15	1.16	1.15	1.11	1.12	1.07	1.06	1.09	1.11	0.02	-0.05
Naphtha	1.13	1.03	1.00	0.93	1.13	0.88	0.83	0.85	0.96	0.12	-0.07
Motor gasoline	1.99	1.97	2.05	1.94	1.84	2.04	2.01	2.09	2.15	0.06	0.07
Jet and kerosene	1.45	1.51	1.69	1.44	1.38	1.59	1.53	1.70	1.69	-0.01	0.00
Gasoil/diesel oil	6.48	6.44	6.45	6.57	6.41	6.30	6.20	6.26	6.70	0.44	0.22
Residual fuel oil	0.89	0.86	0.88	0.84	0.88	0.85	0.85	0.81	0.83	0.02	-0.09
Other products	1.29	1.28	1.42	1.26	1.13	1.28	1.31	1.26	1.32	0.07	-0.14
Total	14.38	14.25	14.66	14.09	13.89	14.02	13.78	14.05	14.76	0.72	-0.06
Asia Oceania											
LPG and ethane	0.76	0.75	0.68	0.73	0.85	0.72	0.73	0.65	0.73	0.08	0.03
Naphtha	2.08	2.04	2.02	2.07	2.10	1.91	1.91	1.88	2.02	0.15	0.04
Motor gasoline	1.54	1.53	1.59	1.52	1.47	1.47	1.43	1.47	1.51	0.04	-0.08
Jet and kerosene	0.93	0.93	0.74	1.02	1.15	0.78	0.72	0.73	0.72	-0.01	0.02
Gasoil/diesel oil	1.89	1.89	1.84	1.92	1.94	1.87	1.80	1.87	1.86	-0.01	0.02
Residual fuel oil	0.54	0.53	0.50	0.51	0.50	0.41	0.39	0.40	0.41	0.01	-0.09
Other products	0.40	0.40	0.39	0.33	0.32	0.34	0.40	0.36	0.35	-0.01	-0.09
Total	8.15	8.06	7.75	8.10	8.33	7.49	7.38	7.36	7.60	0.24	-0.16
OECD											
LPG and ethane	5.30	5.60	5.39	5.62	6.12	5.20	5.15	5.08	5.47	0.39	0.07
Naphtha	3.52	3.39	3.35	3.33	3.54	3.07	3.01	2.98	3.24	0.26	-0.11
Motor gasoline	14.62	14.59	14.95	14.50	13.99	14.77	14.62	15.05	14.93	-0.11	-0.13
Jet and kerosene	4.35	4.46	4.55	4.47	4.50	4.46	4.33	4.55	4.58	0.03	0.07
Gasoil/diesel oil	13.53	13.65	13.54	13.89	13.79	13.36	13.28	13.27	13.59	0.32	0.13
Residual fuel oil	2.09	2.00	2.03	1.94	1.99	1.84	1.76	1.86	1.89	0.03	-0.21
Other products	4.20	4.16	4.47	4.03	3.64	4.22	4.37	4.29	4.51	0.22	-0.01
Total	47.60	47.84	48.27	47.78	47.55	46.93	46.51	47.08	48.22	1.14	-0.19

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 COUNTRIES¹
(million barrels per day)

	2017	2018	3Q18	4Q18	1Q19	2Q19	May 19	Jun 19	Jul 19 ²	Latest month vs.	
										Jun 19	Jul 18
United States³											
LPG and ethane	2.54	2.87	2.72	3.02	3.29	2.60	2.57	2.51	2.77	0.26	0.06
Naphtha	0.23	0.23	0.25	0.24	0.21	0.21	0.21	0.22	0.21	-0.01	-0.03
Motor gasoline	9.33	9.33	9.53	9.25	8.96	9.48	9.40	9.67	9.48	-0.19	-0.16
Jet and kerosene	1.69	1.71	1.78	1.70	1.66	1.78	1.78	1.80	1.84	0.04	0.07
Gasoil/diesel oil	3.93	4.15	4.06	4.19	4.28	4.01	4.04	4.01	3.91	-0.10	-0.06
Residual fuel oil	0.34	0.32	0.33	0.33	0.29	0.26	0.20	0.33	0.34	0.02	-0.01
Other products	1.90	1.89	2.05	1.86	1.62	2.02	2.07	2.07	2.19	0.12	0.19
Total	19.96	20.50	20.71	20.59	20.31	20.35	20.26	20.60	20.74	0.14	0.06
Japan											
LPG and ethane	0.41	0.40	0.34	0.39	0.47	0.35	0.37	0.30	0.32	0.03	-0.04
Naphtha	0.78	0.74	0.70	0.80	0.80	0.69	0.67	0.69	0.70	0.01	0.02
Motor gasoline	0.87	0.86	0.92	0.85	0.81	0.81	0.80	0.80	0.86	0.05	-0.07
Jet and kerosene	0.52	0.50	0.33	0.57	0.69	0.37	0.33	0.33	0.32	-0.01	0.01
Diesel	0.44	0.46	0.47	0.49	0.47	0.45	0.43	0.47	0.47	0.00	0.00
Other gasoil	0.34	0.32	0.27	0.32	0.35	0.28	0.26	0.27	0.28	0.00	0.00
Residual fuel oil	0.28	0.28	0.26	0.27	0.26	0.21	0.20	0.21	0.23	0.02	-0.04
Other products	0.28	0.26	0.26	0.23	0.25	0.23	0.26	0.25	0.24	0.00	-0.02
Total	3.92	3.81	3.56	3.92	4.09	3.41	3.32	3.31	3.41	0.09	-0.13
Germany											
LPG and ethane	0.13	0.11	0.11	0.09	0.12	0.13	0.12	0.13	0.15	0.02	0.03
Naphtha	0.30	0.27	0.24	0.23	0.33	0.22	0.23	0.21	0.25	0.04	-0.01
Motor gasoline	0.50	0.49	0.50	0.48	0.47	0.50	0.51	0.50	0.52	0.01	0.02
Jet and kerosene	0.22	0.22	0.25	0.22	0.20	0.25	0.22	0.28	0.22	-0.06	-0.02
Diesel	0.78	0.76	0.79	0.77	0.75	0.78	0.79	0.75	0.82	0.06	0.02
Other gasoil	0.35	0.32	0.28	0.35	0.41	0.29	0.28	0.32	0.37	0.05	0.13
Residual fuel oil	0.07	0.06	0.06	0.05	0.06	0.05	0.04	0.06	0.06	0.00	-0.01
Other products	0.10	0.11	0.14	0.13	0.08	0.10	0.09	0.10	0.12	0.02	-0.02
Total	2.45	2.35	2.37	2.32	2.42	2.32	2.28	2.35	2.50	0.14	0.14
Italy											
LPG and ethane	0.10	0.10	0.08	0.10	0.09	0.07	0.07	0.05	0.07	0.01	-0.02
Naphtha	0.12	0.13	0.13	0.11	0.08	0.08	0.08	0.09	0.09	0.00	-0.03
Motor gasoline	0.17	0.17	0.18	0.16	0.11	0.14	0.13	0.15	0.15	0.01	-0.03
Jet and kerosene	0.10	0.11	0.13	0.10	0.08	0.11	0.11	0.12	0.13	0.01	-0.01
Diesel	0.45	0.46	0.46	0.47	0.45	0.45	0.45	0.45	0.48	0.03	0.00
Other gasoil	0.08	0.08	0.08	0.08	0.06	0.06	0.05	0.08	0.08	0.00	-0.01
Residual fuel oil	0.07	0.07	0.07	0.07	0.06	0.07	0.07	0.07	0.08	0.01	0.00
Other products	0.15	0.16	0.17	0.17	0.14	0.16	0.16	0.17	0.18	0.00	0.00
Total	1.24	1.27	1.30	1.26	1.08	1.14	1.11	1.19	1.25	0.06	-0.09
France											
LPG and ethane	0.12	0.13	0.11	0.12	0.15	0.12	0.12	0.11	0.11	0.00	0.00
Naphtha	0.12	0.10	0.12	0.07	0.14	0.11	0.11	0.11	0.11	0.01	-0.03
Motor gasoline	0.18	0.19	0.20	0.19	0.18	0.21	0.20	0.21	0.23	0.02	0.02
Jet and kerosene	0.16	0.17	0.19	0.16	0.16	0.18	0.17	0.18	0.20	0.01	0.00
Diesel	0.72	0.71	0.71	0.72	0.68	0.71	0.70	0.70	0.77	0.07	0.03
Other gasoil	0.25	0.24	0.23	0.25	0.26	0.20	0.18	0.20	0.23	0.03	0.02
Residual fuel oil	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.00	0.00
Other products	0.12	0.12	0.14	0.13	0.10	0.12	0.11	0.14	0.16	0.02	0.02
Total	1.74	1.71	1.75	1.69	1.72	1.71	1.65	1.70	1.87	0.16	0.06
United Kingdom											
LPG and ethane	0.14	0.14	0.13	0.14	0.14	0.14	0.16	0.13	0.12	-0.01	-0.02
Naphtha	0.03	0.03	0.02	0.03	0.02	0.03	0.04	0.02	0.03	0.01	0.01
Motor gasoline	0.29	0.28	0.29	0.28	0.29	0.29	0.28	0.30	0.27	-0.03	0.00
Jet and kerosene	0.32	0.32	0.33	0.31	0.33	0.32	0.31	0.32	0.32	0.00	0.01
Diesel	0.52	0.52	0.52	0.52	0.51	0.52	0.49	0.53	0.49	-0.04	-0.02
Other gasoil	0.14	0.14	0.16	0.14	0.12	0.14	0.13	0.14	0.13	-0.02	-0.01
Residual fuel oil	0.03	0.03	0.02	0.03	0.02	0.02	0.02	0.02	0.02	0.00	0.00
Other products	0.12	0.11	0.12	0.11	0.11	0.11	0.12	0.10	0.11	0.01	0.00
Total	1.60	1.57	1.60	1.56	1.55	1.57	1.55	1.57	1.50	-0.07	-0.04
Canada											
LPG and ethane	0.40	0.39	0.41	0.35	0.42	0.39	0.38	0.41	0.46	0.05	0.05
Naphtha	0.05	0.05	0.05	0.05	0.05	0.03	0.02	0.01	0.01	0.00	-0.05
Motor gasoline	0.84	0.88	0.92	0.91	0.83	0.89	0.87	0.92	0.88	-0.03	-0.02
Jet and kerosene	0.14	0.16	0.19	0.16	0.16	0.16	0.15	0.18	0.19	0.01	0.00
Diesel	0.29	0.26	0.26	0.26	0.27	0.26	0.26	0.27	0.26	-0.01	0.00
Other gasoil	0.27	0.29	0.31	0.33	0.29	0.24	0.25	0.22	0.25	0.03	-0.04
Residual fuel oil	0.05	0.05	0.04	0.06	0.07	0.06	0.07	0.05	0.03	-0.02	-0.01
Other products	0.37	0.38	0.40	0.38	0.35	0.37	0.38	0.39	0.42	0.03	0.00
Total	2.42	2.45	2.58	2.51	2.43	2.40	2.38	2.44	2.50	0.06	-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)

	2018	2019	2020	2Q19	3Q19	4Q19	1Q20	2Q20	Jul 19	Aug 19	Sep 19
OPEC											
Crude Oil											
Saudi Arabia	10.33			9.76	9.49				9.65	9.79	9.02
Iran	3.58			2.43	2.20				2.23	2.19	2.19
Iraq	4.57			4.73	4.79				4.78	4.81	4.77
UAE	3.00			3.05	3.07				3.07	3.06	3.07
Kuwait	2.75			2.69	2.65				2.67	2.63	2.65
Neutral Zone ¹	0.00			0.00	0.00				0.00	0.00	0.00
Angola	1.49			1.43	1.35				1.32	1.34	1.38
Nigeria	1.60			1.72	1.81				1.83	1.81	1.78
Libya	0.97			1.15	1.09				1.09	1.06	1.11
Algeria	1.04			1.02	1.02				1.03	1.02	1.02
Congo	0.32			0.35	0.34				0.34	0.34	0.34
Gabon	0.19			0.22	0.21				0.22	0.21	0.19
Equatorial Guinea	0.12			0.11	0.11				0.11	0.11	0.11
Ecuador	0.52			0.53	0.55				0.54	0.55	0.55
Venezuela	1.40			0.86	0.75				0.81	0.80	0.65
Total Crude Oil	31.88			30.05	29.42				29.69	29.72	28.83
Total NGLs²	5.53	5.53	5.57	5.56	5.47	5.52	5.58	5.58	5.54	5.54	5.33
Total OPEC³	37.40			35.61	34.89				35.23	35.26	34.16
NON-OPEC⁴											
OECD											
Americas	22.99	24.55	25.91	24.48	24.50	25.19	25.60	25.78	24.11	24.69	24.70
United States	15.54	17.13	18.42	17.09	17.09	17.69	18.05	18.38	16.65	17.19	17.43
Mexico	2.07	1.92	1.89	1.91	1.92	1.92	1.91	1.90	1.92	1.94	1.91
Canada	5.37	5.49	5.59	5.47	5.48	5.57	5.63	5.50	5.53	5.55	5.34
Chile	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Europe	3.47	3.30	3.68	3.20	3.12	3.42	3.62	3.67	3.28	3.10	2.99
UK	1.11	1.14	1.16	1.17	1.03	1.17	1.21	1.13	1.10	0.99	1.00
Norway	1.85	1.69	2.06	1.57	1.63	1.78	1.95	2.07	1.71	1.65	1.53
Others	0.51	0.47	0.47	0.46	0.46	0.47	0.47	0.47	0.46	0.46	0.47
Asia Oceania	0.41	0.50	0.61	0.48	0.52	0.56	0.59	0.60	0.50	0.53	0.52
Australia	0.34	0.43	0.54	0.41	0.45	0.49	0.52	0.54	0.43	0.46	0.45
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	26.87	28.35	30.19	28.16	28.14	29.18	29.80	30.05	27.89	28.33	28.21
NON-OECD											
Former USSR	14.56	14.60	14.61	14.41	14.59	14.59	14.65	14.63	14.62	14.62	14.52
Russia	11.49	11.57	11.58	11.50	11.57	11.55	11.56	11.57	11.49	11.64	11.58
Others	3.07	3.03	3.03	2.91	3.02	3.04	3.09	3.05	3.13	2.99	2.94
Asia	7.21	7.16	7.05	7.21	7.09	7.10	7.09	7.08	7.00	7.14	7.12
China	3.85	3.93	3.92	3.95	3.92	3.91	3.92	3.94	3.94	3.92	3.92
Malaysia	0.71	0.69	0.70	0.69	0.66	0.71	0.70	0.70	0.66	0.70	0.71
India	0.84	0.80	0.78	0.81	0.80	0.79	0.79	0.79	0.80	0.79	0.79
Indonesia	0.80	0.76	0.73	0.76	0.76	0.75	0.74	0.73	0.76	0.76	0.75
Others	1.01	0.97	0.92	1.00	0.95	0.94	0.93	0.92	0.94	0.97	0.95
Europe	0.12	0.12	0.11	0.12	0.12	0.12	0.11	0.11	0.12	0.12	0.12
Americas	4.52	4.75	5.08	4.58	4.88	5.01	5.03	5.08	4.71	4.96	4.98
Brazil	2.71	2.90	3.22	2.74	3.04	3.17	3.20	3.24	2.88	3.10	3.13
Argentina	0.58	0.60	0.61	0.60	0.60	0.60	0.60	0.61	0.60	0.61	0.60
Colombia	0.87	0.89	0.86	0.90	0.88	0.88	0.87	0.86	0.88	0.89	0.88
Others	0.36	0.35	0.39	0.35	0.36	0.36	0.35	0.37	0.35	0.36	0.36
Middle East	3.27	3.27	3.27	3.27	3.27	3.26	3.27	3.27	3.26	3.28	3.25
Oman	0.99	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Qatar	2.01	2.01	2.01	2.01	2.00	2.01	2.01	2.01	2.01	2.02	1.99
Syria	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02
Yemen	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04
Others	0.21	0.21	0.21	0.21	0.22	0.21	0.21	0.21	0.21	0.22	0.22
Africa	1.44	1.44	1.46	1.44	1.44	1.44	1.46	1.46	1.43	1.44	1.44
Egypt	0.65	0.63	0.62	0.64	0.63	0.63	0.62	0.62	0.63	0.62	0.63
Others	0.79	0.81	0.84	0.81	0.81	0.81	0.84	0.84	0.80	0.82	0.81
Total Non-OECD	31.13	31.33	31.59	31.03	31.38	31.52	31.61	31.63	31.14	31.56	31.43
Processing gains ⁵	2.32	2.35	2.38	2.35	2.35	2.35	2.38	2.38	2.35	2.35	2.35
Global Biofuels	2.62	2.73	2.83	2.90	3.18	2.62	2.36	2.93	3.19	3.26	3.10
TOTAL NON-OPEC	62.94	64.76	66.99	64.44	65.05	65.66	66.15	66.99	64.57	65.49	65.09
TOTAL SUPPLY	100.34			100.05	99.94				99.79	100.75	99.26

¹ Neutral Zone production is also included in Saudi Arabia and Kuwait production with their respective shares.

² 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.

³ OPEC data based on today's membership throughout the time series.

⁴ Comprises crude oil, condensates, NGLs and oil from non-conventional sources.

⁵ Net volumetric gains and losses in refining and marine transportation losses.

Table 3a
OIL SUPPLY IN OECD COUNTRIES¹
(thousand of barrels per day)

	2018	2019	2020	2Q19	3Q19	4Q19	1Q20	2Q20	Jul 19	Aug 19	Sep 19
United States											
Alaska	479	464	454	468	418	484	482	461	448	367	439
California	477	457	439	461	454	450	445	441	454	455	452
Texas	4408	5033	5453	4965	5071	5243	5329	5412	5021	5081	5113
Federal Gulf of Mexico ²	1758	1886	2020	1935	1792	1969	2003	2037	1580	1867	1934
Other US Lower 48	3869	4325	4721	4277	4362	4497	4624	4676	4302	4390	4396
NGLs ³	4369	4793	5155	4806	4825	4882	5009	5167	4679	4869	4930
Other Hydrocarbons	178	169	174	178	164	167	156	186	163	163	166
Total	15537	17129	18417	17090	17086	17692	18048	18379	16648	17191	17430
Canada											
Alberta Light/Medium/Heavy	489	483	478	486	480	479	478	478	480	481	479
Alberta Bitumen	1856	1810	1930	1833	1846	1876	1912	1868	1770	1827	1943
Saskatchewan	488	483	459	487	480	474	468	462	483	479	477
Other Crude	409	435	440	461	415	427	419	491	422	422	400
NGLs	904	954	954	944	927	963	988	949	933	933	915
Other Upgraders	164	178	178	174	181	182	184	167	199	194	149
Synthetic Crudes	1056	1148	1148	1084	1149	1174	1183	1084	1246	1215	981
Total	5368	5491	5588	5469	5477	5575	5632	5499	5533	5552	5343
Mexico											
Crude	1831	1701	1696	1689	1713	1711	1705	1699	1710	1725	1703
NGLs	236	211	190	218	206	202	197	192	203	209	206
Total	2073	1916	1890	1911	1923	1917	1906	1895	1918	1939	1913
UK											
Brent Fields	45	41	34	47	35	37	39	37	39	33	32
Forties Fields	355	335	287	345	298	330	327	249	299	271	326
Ninian Fields	34	30	23	32	26	26	25	24	26	26	27
Flotta Fields	65	53	46	52	47	48	48	44	40	52	50
Other Fields	519	586	673	592	530	632	673	678	605	511	472
NGLs	89	98	92	98	95	96	94	93	95	97	93
Total	1108	1142	1155	1166	1031	1169	1206	1126	1103	990	999
Norway⁵											
Ekofisk-Ula Area	145	135	151	106	152	138	149	149	167	146	144
Oseberg-Troll Area	251	254	270	251	247	259	264	269	261	250	230
Statfjord-Gullfaks Area	306	237	227	203	232	238	234	231	236	242	217
Haltenbanken Area	331	284	312	271	277	298	313	312	282	298	249
Sleipner-Frigg Area	403	388	731	355	353	459	607	749	360	364	335
Other Fields	79	80	82	73	74	90	86	74	81	79	61
NGLs	335	309	286	309	294	303	294	287	326	267	289
Total	1850	1689	2060	1568	1629	1785	1947	2072	1712	1647	1526
Other OECD Europe											
Denmark	114	107	93	114	101	99	97	95	105	96	103
Italy	89	84	106	78	82	90	98	106	79	82	84
Turkey	55	58	59	58	59	59	59	59	60	59	59
Other	117	104	97	97	98	103	100	98	86	105	103
NGLs	11	8	6	8	7	7	7	6	7	7	7
Non-Conventional Oils	128	110	104	109	117	112	104	104	126	113	111
Total	515	471	466	463	464	470	465	468	463	462	467
Australia											
Gippsland Basin	13	8	7	8	8	8	8	7	8	8	8
Cooper-Eromanga Basin	30	34	32	34	33	33	32	32	34	33	33
Carnarvon Basin	60	58	81	57	57	63	69	77	56	56	58
Other Crude	180	259	309	249	271	294	303	309	267	280	266
NGLs	59	71	110	59	80	95	107	111	64	86	90
Total	342	430	539	407	449	493	520	537	429	464	454
Other OECD Asia Oceania											
New Zealand	24	24	21	26	23	22	22	21	23	23	23
Japan	3	4	4	4	4	4	4	4	4	4	4
NGLs	13	12	11	11	11	11	11	11	12	11	11
Non-Conventional Oils	29	29	31	31	31	31	31	31	31	31	31
Total	69	69	67	72	70	69	68	67	70	70	69
OECD											
Crude Oil	19288	20246	21741	20117	20042	20943	21424	21654	19791	20118	20222
NGLs	6024	6464	6812	6461	6453	6566	6716	6824	6327	6488	6548
Non-Conventional Oils ⁴	1560	1639	1640	1580	1647	1671	1663	1577	1771	1720	1442
Total	26872	28349	30193	28158	28141	29180	29803	30055	27889	28326	28212

¹ Subcategories refer to crude oil only unless otherwise noted.

² Only production from Federal waters is included.

³ To the extent possible, condensates from natural gas processing plants are included with NGLs, while field condensates are counted as crude oil.

⁴ Does not include biofuels.

⁵ North Sea production is grouped by area including all fields being processed through the named field complex, ie, not just the field of that name.

⁶ Other North Sea NGLs is included.

Table 4
OECD STOCKS AND QUARTERLY STOCK CHANGES

	RECENT MONTHLY STOCKS ²					PRIOR YEARS' STOCKS ²			STOCK CHANGES			
	in Million Barrels					in Million Barrels			in mb/d			
	Apr2019	May2019	Jun2019	Jul2019	Aug2019*	Aug2016	Aug2017	Aug2018	3Q2018	4Q2018	1Q2019	2Q2019
OECD INDUSTRY-CONTROLLED STOCKS ¹												
OECD Americas												
Crude	629.6	639.2	616.4	596.2	576.4	642.0	618.4	567.5	0.00	0.35	0.11	0.01
Motor Gasoline	260.7	265.1	259.9	261.1	257.6	262.6	255.2	267.8	0.03	0.09	-0.14	-0.07
Middle Distillate	199.8	198.8	200.5	208.7	207.8	234.7	216.5	205.3	0.27	0.01	-0.12	-0.05
Residual Fuel Oil	33.5	35.0	35.5	36.0	34.9	46.8	38.5	34.2	0.00	-0.01	-0.01	0.02
Total Products ³	710.7	733.0	743.7	761.4	770.7	801.3	754.8	743.4	0.60	-0.17	-0.41	0.37
Total ⁴	1532.5	1571.9	1564.8	1567.2	1559.3	1638.1	1575.2	1508.9	0.76	0.01	-0.35	0.62
OECD Europe												
Crude	357.2	355.5	357.5	357.5	357.2	360.9	344.3	351.1	-0.31	-0.02	0.33	-0.06
Motor Gasoline	88.7	88.3	89.8	87.7	89.8	93.2	90.1	83.4	0.01	0.10	0.06	-0.10
Middle Distillate	270.8	273.2	276.7	278.1	286.9	337.3	311.9	270.9	0.18	-0.11	0.13	0.09
Residual Fuel Oil	59.0	60.7	59.2	60.8	61.7	74.4	61.8	58.1	-0.02	-0.02	0.06	0.00
Total Products ³	530.1	534.3	542.1	540.6	552.1	604.3	578.4	527.2	0.16	-0.06	0.28	0.01
Total ⁴	970.4	973.2	981.7	984.5	994.0	1036.0	994.4	954.1	-0.21	-0.03	0.66	-0.08
OECD Asia Oceania												
Crude	156.7	155.8	152.3	158.8	164.5	187.5	195.1	158.2	-0.24	0.16	0.04	-0.07
Motor Gasoline	24.8	26.2	24.4	26.6	25.6	24.0	24.6	23.2	0.00	0.00	0.02	-0.01
Middle Distillate	64.9	67.7	69.3	71.7	76.6	75.1	69.1	72.4	0.13	-0.04	-0.07	0.03
Residual Fuel Oil	20.1	20.0	19.7	18.9	19.7	19.3	19.6	18.6	-0.01	0.01	-0.01	0.00
Total Products ³	161.5	170.1	173.2	179.1	190.8	192.0	181.5	172.7	0.22	-0.04	-0.18	0.10
Total ⁴	379.5	386.2	388.9	401.7	420.9	441.4	441.6	396.8	0.02	0.11	-0.23	0.10
Total OECD												
Crude	1143.4	1150.5	1126.1	1112.5	1098.1	1190.4	1157.7	1076.8	-0.55	0.50	0.48	-0.12
Motor Gasoline	374.2	379.6	374.1	375.3	373.1	379.8	369.9	374.4	0.04	0.19	-0.06	-0.19
Middle Distillate	535.5	539.7	546.6	558.5	571.3	647.1	597.5	548.6	0.58	-0.14	-0.06	0.07
Residual Fuel Oil	112.6	115.8	114.4	115.8	116.3	140.5	119.8	110.9	-0.04	-0.02	0.04	0.02
Total Products ³	1402.3	1437.4	1459.1	1481.0	1513.6	1597.5	1514.6	1443.3	0.97	-0.27	-0.31	0.48
Total ⁴	2882.3	2931.3	2935.4	2953.4	2974.2	3115.5	3011.2	2859.9	0.57	0.08	0.08	0.64
OECD GOVERNMENT-CONTROLLED STOCKS ⁵												
OECD Americas												
Crude	648.6	644.8	644.8	644.8	644.8	695.1	678.8	660.0	0.00	-0.12	0.00	-0.05
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	209.4	206.3	207.0	205.8	205.1	205.9	208.1	211.2	0.01	-0.01	-0.02	-0.02
Products	277.9	277.2	275.8	274.1	275.1	270.8	269.1	272.7	-0.05	-0.04	0.10	-0.01
OECD Asia Oceania												
Crude	378.6	378.6	378.6	378.6	378.6	385.4	385.0	383.3	0.00	-0.02	-0.03	0.00
Products	38.8	38.8	38.8	38.9	38.9	35.9	38.0	38.7	0.00	0.00	0.00	0.00
Total OECD												
Crude	1236.6	1229.7	1230.4	1229.2	1228.5	1286.4	1271.9	1254.5	0.01	-0.16	-0.05	-0.07
Products	318.6	318.0	316.5	315.0	315.9	308.7	309.1	313.5	-0.05	-0.04	0.10	-0.01
Total ⁴	1557.5	1549.8	1548.8	1546.0	1546.8	1597.3	1584.5	1571.1	-0.05	-0.20	0.06	-0.09

* 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 4a
INDUSTRY STOCKS¹ ON LAND IN SELECTED COUNTRIES

(million barrels)

	March			April			May			June			July		
	2018	2019	%	2018	2019	%	2018	2019	%	2018	2019	%	2018	2019	%
United States²															
Crude	424.9	459.3	8.1	436.6	468.8	7.4	434.2	480.2	10.6	415.2	464.0	11.8	409.6	442.1	7.9
Motor Gasoline	239.7	236.1	-1.5	240.1	230.2	-4.1	242.9	235.7	-3.0	240.7	229.7	-4.6	234.3	235.2	0.4
Middle Distillate	172.5	175.7	1.9	163.5	171.1	4.6	158.5	171.4	8.1	162.9	173.2	6.3	169.7	183.2	8.0
Residual Fuel Oil	35.0	28.7	-18.0	32.3	27.9	-13.6	31.9	30.0	-6.0	30.0	30.3	1.0	29.3	30.6	4.4
Other Products	162.6	183.7	13.0	169.9	195.6	15.1	181.5	214.0	17.9	194.2	229.0	17.9	204.2	235.7	15.4
Total Products	609.8	624.2	2.4	605.8	624.8	3.1	614.8	651.1	5.9	627.8	662.2	5.5	637.5	684.7	7.4
Other ³	163.9	165.5	1.0	161.2	173.7	7.8	163.9	181.0	10.4	166.2	183.8	10.6	167.4	187.9	12.2
Total	1198.6	1249.0	4.2	1203.6	1267.3	5.3	1212.9	1312.3	8.2	1209.2	1310.0	8.3	1214.5	1314.7	8.3
Japan															
Crude	87.3	95.5	9.4	93.4	94.1	0.7	97.5	97.2	-0.3	92.6	91.9	-0.8	97.1	102.6	5.7
Motor Gasoline	10.1	10.3	2.0	10.7	9.7	-9.3	11.5	9.8	-14.8	9.9	9.5	-4.0	9.3	9.6	3.2
Middle Distillate	27.8	26.9	-3.2	29.8	25.8	-13.4	29.4	27.4	-6.8	28.4	28.2	-0.7	30.0	31.0	3.3
Residual Fuel Oil	7.2	8.0	11.1	7.7	7.9	2.6	8.3	8.0	-3.6	8.0	7.8	-2.5	7.4	7.7	4.1
Other Products	33.8	30.6	-9.5	34.2	30.9	-9.6	33.1	33.8	2.1	32.5	35.8	10.2	33.4	37.0	10.8
Total Products	78.9	75.8	-3.9	82.4	74.3	-9.8	82.3	79.0	-4.0	78.8	81.3	3.2	80.1	85.3	6.5
Other ³	46.0	47.1	2.4	50.9	51.4	1.0	52.9	50.8	-4.0	51.7	53.1	2.7	53.6	53.8	0.4
Total	212.2	218.4	2.9	226.7	219.8	-3.0	232.7	227.0	-2.4	223.1	226.3	1.4	230.8	241.7	4.7
Germany															
Crude	50.8	47.8	-5.9	48.0	48.7	1.5	48.9	48.6	-0.6	49.4	47.7	-3.4	48.3	49.7	2.9
Motor Gasoline	10.7	10.9	1.9	10.0	9.5	-5.0	9.5	10.0	5.3	9.4	11.9	26.6	9.8	11.7	19.4
Middle Distillate	24.3	23.8	-2.1	26.5	23.7	-10.6	25.6	22.7	-11.3	25.2	25.3	0.4	25.1	23.8	-5.2
Residual Fuel Oil	8.1	7.0	-13.6	8.1	7.1	-12.3	8.3	7.0	-15.7	7.8	6.8	-12.8	7.9	6.6	-16.5
Other Products	10.8	10.9	0.9	10.9	10.3	-5.5	10.6	10.1	-4.7	10.8	10.4	-3.7	10.6	10.5	-0.9
Total Products	53.9	52.6	-2.4	55.5	50.6	-8.8	54.0	49.8	-7.8	53.2	54.4	2.3	53.4	52.6	-1.5
Other ³	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total	104.7	100.4	-4.1	103.5	99.3	-4.1	102.9	98.4	-4.4	102.6	102.1	-0.5	101.7	102.3	0.6
Italy															
Crude	36.4	42.2	15.9	42.0	43.1	2.6	40.9	40.4	-1.2	39.7	45.0	13.4	46.8	42.2	-9.8
Motor Gasoline	13.2	13.0	-1.5	11.8	11.1	-5.9	10.3	11.0	6.8	10.9	11.3	3.7	11.8	11.5	-2.5
Middle Distillate	30.3	30.3	0.0	27.5	29.9	8.7	28.2	29.3	3.9	27.4	28.0	2.2	27.2	28.0	2.9
Residual Fuel Oil	9.6	8.4	-12.5	10.2	8.7	-14.7	10.4	8.6	-17.3	9.8	8.7	-11.2	10.2	8.9	-12.7
Other Products	13.7	12.7	-7.3	12.9	12.1	-6.2	13.4	11.7	-12.7	12.9	12.4	-3.9	12.7	12.0	-5.5
Total Products	66.8	64.4	-3.6	62.4	61.8	-1.0	62.3	60.6	-2.7	61.0	60.4	-1.0	61.9	60.4	-2.4
Other ³	15.1	14.7	-2.6	15.2	14.8	-2.6	16.1	16.2	0.6	15.6	13.8	-11.5	14.6	15.1	3.4
Total	118.3	121.3	2.5	119.6	119.7	0.1	119.3	117.2	-1.8	116.3	119.2	2.5	123.3	117.7	-4.5
France															
Crude	14.3	14.9	4.2	13.6	12.9	-5.1	15.2	13.7	-9.9	15.8	15.8	0.0	13.7	13.5	-1.5
Motor Gasoline	3.5	4.5	28.6	3.4	3.8	11.8	3.3	4.5	36.4	4.1	5.9	43.9	3.2	5.7	78.1
Middle Distillate	17.5	20.4	16.6	20.1	20.9	4.0	18.9	21.7	14.8	18.1	21.1	16.6	19.6	19.6	0.0
Residual Fuel Oil	1.2	1.4	16.7	1.0	0.9	-10.0	0.9	0.8	-11.1	0.8	0.9	12.5	0.8	1.2	50.0
Other Products	3.7	4.5	21.6	3.5	4.0	14.3	3.4	3.9	14.7	3.4	4.3	26.5	3.7	4.4	18.9
Total Products	25.9	30.8	18.9	28.0	29.6	5.7	26.5	30.9	16.6	26.4	32.2	22.0	27.3	30.9	13.2
Other ³	8.6	8.0	-7.0	8.8	7.4	-15.9	9.0	7.6	-15.6	9.3	8.5	-8.6	9.1	8.0	-12.1
Total	48.8	53.7	10.0	50.4	49.9	-1.0	50.7	52.2	3.0	51.5	56.5	9.7	50.1	52.4	4.6
United Kingdom															
Crude	27.8	31.3	12.6	30.3	30.6	1.0	32.7	29.1	-11.0	34.2	30.0	-12.3	33.0	27.1	-17.9
Motor Gasoline	11.2	10.3	-8.0	10.5	9.8	-6.7	9.4	9.0	-4.3	9.9	8.7	-12.1	10.3	9.2	-10.7
Middle Distillate	23.7	24.2	2.1	23.7	25.9	9.3	23.8	24.9	4.6	23.0	24.3	5.7	24.8	26.6	7.3
Residual Fuel Oil	1.4	1.3	-7.1	1.2	1.4	16.7	1.2	1.3	8.3	1.3	1.4	7.7	1.3	1.1	-15.4
Other Products	5.3	5.1	-3.8	5.3	6.2	17.0	4.7	6.1	29.8	5.2	6.6	26.9	5.7	6.4	12.3
Total Products	41.6	40.9	-1.7	40.7	43.3	6.4	39.1	41.3	5.6	39.4	41.0	4.1	42.1	43.3	2.9
Other ³	8.4	8.6	2.4	7.6	9.7	27.6	8.5	8.8	3.5	8.4	8.9	6.0	7.7	9.5	23.4
Total	77.8	80.8	3.9	78.6	83.6	6.4	80.3	79.2	-1.4	82.0	79.9	-2.6	82.8	79.9	-3.5
Canada⁴															
Crude	120.3	122.8	2.1	115.7	125.3	8.3	123.6	126.2	2.1	120.9	121.0	0.1	116.9	121.0	3.5
Motor Gasoline	18.9	14.8	-21.7	16.8	14.6	-13.1	14.0	14.4	2.9	14.3	13.9	-2.8	15.8	14.3	-9.5
Middle Distillate	21.7	16.9	-22.1	20.1	17.1	-14.9	16.1	15.5	-3.7	17.0	14.9	-12.4	18.3	15.4	-15.8
Residual Fuel Oil	2.1	2.4	14.3	2.4	2.2	-8.3	2.1	1.6	-23.8	2.3	2.0	-13.0	2.2	1.8	-18.2
Other Products	12.6	11.6	-7.9	12.9	11.4	-11.6	13.7	11.2	-18.2	12.8	9.6	-25.0	12.2	9.9	-18.9
Total Products	55.3	45.7	-17.4	52.2	45.3	-13.2	45.9	42.7	-7.0	46.4	40.4	-12.9	48.5	41.4	-14.6
Other ³	16.2	17.7	9.3	18.0	18.4	2.2	20.6	18.5	-10.2	23.0	20.5	-10.9	24.0	21.3	-11.3
Total	191.8	186.2	-2.9	185.9	189.0	1.7	190.1	187.4	-1.4	190.3	181.9	-4.4	189.4	183.7	-3.0

¹ Stocks are primary national territory stocks on land (excluding utility stocks and including pipeline and interpot 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 US figures exclude US territories.

³ Other includes NGLs, refinery feedstocks, additives/oxygenates and other hydrocarbons.

⁴ Canadian stock information for recent months is the administration's best estimate. Data are usually finalised three months after first publication.

Table 5
TOTAL STOCKS ON LAND IN OECD COUNTRIES¹
(millions of barrels² and 'days')

	End June 2018		End September 2018		End December 2018		End March 2019		End June 2019 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	190.3	74	195.5	78	192.3	81	186.1	78	182.0	-
Chile	12.3	34	11.6	32	10.4	28	10.5	28	11.0	-
Mexico	39.1	21	40.6	22	54.7	29	40.5	21	39.6	-
United States ⁴	1871.2	90	1935.2	94	1915.3	94	1900.2	93	1956.9	-
Total⁴	2135.0	83	2204.9	86	2194.7	87	2159.4	85	2211.6	85
OECD Asia Oceania										
Australia	42.4	36	42.6	35	40.7	35	44.0	37	45.8	-
Israel	-	-	-	-	-	-	-	-	-	-
Japan	549.4	154	561.2	143	564.8	138	539.7	158	547.7	-
Korea	209.6	81	200.0	79	205.8	78	205.1	83	204.4	-
New Zealand	8.2	46	7.9	42	8.3	43	8.0	46	8.4	-
Total	809.6	104	811.8	100	819.6	98	796.8	106	806.3	105
OECD Europe⁵										
Austria	21.2	73	20.2	73	20.9	80	23.0	80	21.5	-
Belgium	43.3	69	44.0	68	42.0	63	45.8	78	49.1	-
Czech Republic	21.4	96	21.5	97	22.8	110	23.0	100	20.4	-
Denmark	22.8	142	20.6	126	20.3	133	22.1	135	24.4	-
Estonia	2.6	82	2.6	84	2.9	87	2.6	88	2.7	-
Finland	40.8	193	40.0	196	39.9	198	38.5	197	38.9	-
France	168.5	97	164.6	97	160.8	94	169.0	99	169.2	-
Germany	278.3	118	272.6	118	271.0	112	274.5	118	279.2	-
Greece	32.1	99	34.4	113	32.1	110	35.3	116	29.0	-
Hungary	25.2	142	25.6	147	25.6	158	25.8	147	23.8	-
Ireland	10.0	65	9.9	61	10.2	65	10.8	68	9.8	-
Italy	125.4	97	124.5	99	125.1	116	130.5	114	129.4	-
Latvia	3.6	91	2.3	70	2.4	67	4.0	98	3.9	-
Lithuania	7.1	93	6.8	103	6.6	113	7.5	107	6.2	-
Luxembourg	0.4	7	0.5	8	0.5	8	0.5	8	0.6	-
Netherlands	133.4	148	136.0	156	133.3	147	151.2	183	147.0	-
Norway	26.4	105	24.1	121	26.7	161	27.2	165	26.6	-
Poland	75.7	105	74.1	108	76.8	118	80.6	116	77.8	-
Portugal	23.8	97	23.5	102	24.6	107	26.4	105	24.8	-
Slovak Republic	11.6	127	12.0	124	11.8	135	12.0	141	11.2	-
Slovenia	4.9	85	4.8	89	5.0	107	4.9	93	5.1	-
Spain	117.9	88	119.7	89	115.9	87	124.2	93	126.0	-
Sweden	37.7	119	34.5	108	35.8	118	38.3	114	41.9	-
Switzerland	33.6	158	33.0	141	30.8	137	31.6	148	30.7	-
Turkey	90.1	81	87.0	102	87.6	101	87.7	90	87.0	-
United Kingdom	82.1	51	77.5	50	76.4	49	80.7	51	80.0	-
Total	1439.9	98	1416.2	101	1407.8	101	1477.7	105	1466.3	100
Total OECD	4384.6	91	4432.8	93	4422.2	93	4434.0	95	4484.2	93
DAYS OF IEA Net Imports⁶ -	188	-	190	-	189	-	191	-	215	

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 entropot stocks where known) they include stocks held by industry to meet IEA, EU and national emergency reserves commitments and are subject to government control in emergencies.

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 2019 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	Industry	Total	Government ¹	Industry
		controlled			controlled	
		Millions of Barrels			Days of Fwd. Demand ²	
2Q2016	4674	1594	3081	98	34	65
3Q2016	4685	1597	3088	99	34	65
4Q2016	4608	1601	3007	98	34	64
1Q2017	4636	1601	3035	98	34	64
2Q2017	4614	1590	3024	96	33	63
3Q2017	4553	1579	2974	94	33	62
4Q2017	4428	1569	2860	92	33	60
1Q2018	4390	1577	2814	93	33	60
2Q2018	4385	1575	2810	91	33	58
3Q2018	4433	1570	2863	93	33	60
4Q2018	4422	1552	2870	93	33	60
1Q2019	4434	1557	2877	95	33	61
2Q2019	4484	1549	2935	93	32	61

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 2Q2019 (when latest forecasts are used).

Table 6
IEA MEMBER COUNTRY DESTINATIONS OF SELECTED CRUDE STREAMS¹
(million barrels per day)

	2016	2017	2018	3Q18	4Q18	1Q19	2Q19	May 19	Jun 19	Jul 19	Year Earlier Jul 18	change
Saudi Light & Extra Light												
Americas	0.69	0.59	0.66	0.64	0.66	0.35	0.15	0.04	0.12	-	0.66	-
Europe	0.79	0.69	0.69	0.76	0.73	0.70	0.75	0.79	0.75	0.83	0.75	0.08
Asia Oceania	1.40	1.56	1.45	1.36	1.50	1.62	1.41	1.40	1.34	1.33	1.33	0.00
Saudi Medium												
Americas	0.44	0.33	0.30	0.37	0.33	0.13	0.21	0.02	0.32	0.04	0.27	-0.23
Europe	0.01	0.01	0.01	0.01	0.01	-	0.01	0.01	0.01	-	0.01	-
Asia Oceania	0.41	0.37	0.41	0.41	0.39	0.24	0.23	0.22	0.23	0.25	0.35	-0.10
Canada Heavy												
Americas	2.04	2.23	2.41	2.39	2.43	2.29	2.19	2.07	2.34	2.23	2.40	-0.17
Europe	0.01	0.02	0.04	0.05	0.02	0.03	0.05	0.06	0.08	0.04	0.04	0.01
Asia Oceania	-	-	0.00	-	0.01	-	-	-	-	-	-	-
Iraqi Basrah Light²												
Americas	0.42	0.63	0.50	0.41	0.32	0.46	0.24	0.18	0.40	0.30	0.59	-0.29
Europe	0.81	0.76	0.76	0.87	0.92	0.89	0.96	1.21	0.93	0.92	0.76	0.15
Asia Oceania	0.46	0.40	0.43	0.42	0.42	0.45	0.39	0.31	0.32	0.25	0.46	-0.21
Kuwait Blend												
Americas	0.14	0.11	0.02	-	-	-	-	-	-	-	-	-
Europe	0.19	0.20	0.13	0.17	0.13	0.04	0.11	0.10	0.16	0.15	0.10	0.05
Asia Oceania	0.66	0.68	0.66	0.67	0.62	0.63	0.62	0.67	0.51	0.55	0.64	-0.09
Iranian Light												
Americas	-	-	-	-	-	-	-	-	-	-	-	-
Europe	0.21	0.27	0.16	0.13	0.03	0.01	-	-	-	-	0.17	-
Asia Oceania	0.01	0.01	0.01	0.01	-	0.01	-	-	-	-	0.01	-
Iranian Heavy³												
Americas	-	-	-	-	-	-	-	-	-	-	-	-
Europe	0.21	0.52	0.35	0.41	0.11	0.09	0.07	0.09	0.00	-	0.49	-
Asia Oceania	0.52	0.57	0.28	0.24	0.02	0.36	0.18	-	-	-	0.38	-
BFOE												
Americas	0.02	0.02	0.00	0.00	-	-	-	-	-	-	0.00	-
Europe	0.44	0.45	0.35	0.43	0.31	0.39	0.31	0.39	0.24	0.29	0.43	-0.14
Asia Oceania	0.05	0.10	0.09	0.07	0.10	-	0.01	0.03	-	-	0.06	-
Kazakhstan												
Americas	0.01	-	-	-	-	-	-	-	-	-	-	-
Europe	0.70	0.75	0.75	0.70	0.71	0.86	0.78	0.75	0.77	0.89	0.80	0.09
Asia Oceania	0.03	0.10	0.19	0.21	0.22	0.17	0.17	0.15	0.25	0.24	0.28	-0.04
Venezuelan 22 API and heavier												
Americas	0.63	0.48	0.44	0.45	0.45	0.19	-	-	-	-	0.62	-
Europe	0.05	0.04	0.03	0.03	0.06	0.10	0.06	0.06	0.06	0.06	0.03	0.04
Asia Oceania	-	-	-	-	-	-	-	-	-	-	-	-
Mexican Maya												
Americas	0.53	0.58	0.63	0.75	0.51	0.54	0.51	0.44	0.50	0.51	0.71	-0.20
Europe	0.17	0.20	0.21	0.17	0.17	0.21	0.21	0.15	0.23	0.20	0.21	-0.01
Asia Oceania	0.05	0.07	0.08	0.08	0.09	0.12	0.14	0.09	0.13	0.13	0.15	-0.02
Russian Urals												
Americas	-	0.01	0.01	-	0.02	0.04	-	-	-	-	-	-
Europe	1.72	1.64	1.40	1.37	1.38	1.38	1.38	1.06	1.55	1.66	1.38	0.28
Asia Oceania	-	0.01	0.00	-	-	-	-	-	-	-	-	-
Cabinda and Other Angola												
North America	0.16	0.07	0.06	0.11	0.02	-	0.04	-	0.11	-	0.16	-
Europe	0.27	0.11	0.14	0.22	0.08	0.17	0.10	0.14	0.06	0.22	0.17	0.05
Pacific	0.01	0.01	0.01	-	0.03	-	-	-	-	-	-	-
Nigerian Light⁴												
Americas	0.07	0.04	0.01	-	-	-	0.07	0.16	0.06	-	-	-
Europe	0.39	0.39	0.53	0.54	0.63	0.47	0.58	0.60	0.72	0.26	0.44	-0.18
Asia Oceania	0.01	0.02	0.02	0.01	0.02	0.03	0.00	-	-	0.03	0.03	0.00
Libya Light and Medium												
Americas	-	0.02	-	-	-	-	0.01	-	0.03	-	-	-
Europe	0.20	0.54	0.62	0.55	0.65	0.54	0.72	0.77	0.66	0.72	0.37	0.35
Asia Oceania	0.02	0.03	0.02	0.02	0.02	0.04	0.03	0.03	0.05	0.04	0.02	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)

	2016	2017	2018	3Q18	4Q18	1Q19	2Q19	May 19	Jun 19	Jul 19	Year Earlier	
											Jul 18	% change
Crude Oil												
Americas	4542	4361	3759	3905	3223	2891	2961	3137	3048	2490	4068	-39%
Europe	9437	9902	9814	10046	9664	10014	9574	9198	9575	10463	10195	3%
Asia Oceania	6659	6849	6657	6474	6834	6852	6304	6100	6069	6568	6743	-3%
Total OECD	20638	21112	20230	20426	19720	19758	18839	18435	18693	19521	21006	-7%
LPG												
Americas	20	20	22	17	24	35	21	17	22	22	12	87%
Europe	441	432	457	404	470	482	414	365	452	397	422	-6%
Asia Oceania	567	551	556	504	557	587	554	563	596	585	443	32%
Total OECD	1028	1003	1035	925	1050	1105	989	945	1070	1003	877	14%
Naphtha												
Americas	10	19	8	6	11	5	4	3	4	3	11	-74%
Europe	348	369	391	376	364	348	334	274	333	255	385	-34%
Asia Oceania	908	978	1018	1004	1085	918	955	943	945	1014	1042	-3%
Total OECD	1266	1366	1417	1386	1461	1271	1293	1220	1282	1271	1438	-12%
Gasoline³												
Americas	735	727	773	968	504	595	1045	1250	844	1101	977	13%
Europe	91	153	110	83	77	118	148	169	116	64	79	-19%
Asia Oceania	87	102	108	91	95	110	110	118	89	82	108	-24%
Total OECD	913	983	992	1142	676	822	1303	1537	1049	1247	1164	7%
Jet & Kerosene												
Americas	169	171	140	178	115	138	185	172	186	212	179	18%
Europe	502	504	509	591	476	455	571	558	586	535	612	-13%
Asia Oceania	73	80	89	55	121	82	60	74	33	75	63	18%
Total OECD	744	755	738	825	711	675	815	804	805	822	855	-4%
Gasoi/Diesel												
Americas	67	77	124	130	125	204	81	85	90	107	93	16%
Europe	1304	1337	1339	1397	1224	1396	1285	1176	1364	1256	1547	-19%
Asia Oceania	196	196	253	232	313	233	259	264	226	270	257	5%
Total OECD	1566	1610	1717	1758	1663	1833	1626	1525	1680	1634	1896	-14%
Heavy Fuel Oil												
Americas	149	131	161	195	130	149	104	115	80	96	184	-48%
Europe	461	233	197	172	208	217	224	239	226	249	179	39%
Asia Oceania	153	146	162	151	149	103	106	130	137	90	103	-12%
Total OECD	762	510	520	518	488	469	434	483	442	435	466	-7%
Other Products												
Americas	652	717	679	699	637	520	730	703	689	877	659	33%
Europe	783	1012	1008	1056	937	1006	901	951	821	778	1168	-33%
Asia Oceania	348	259	282	272	296	273	292	336	276	287	239	20%
Total OECD	1783	1987	1969	2027	1870	1799	1923	1991	1786	1942	2066	-6%
Total Products												
Americas	1802	1862	1908	2194	1547	1645	2171	2345	1915	2418	2115	14%
Europe	3930	4040	4011	4078	3756	4022	3877	3731	3898	3534	4392	-20%
Asia Oceania	2331	2312	2470	2309	2616	2306	2337	2429	2301	2403	2256	7%
Total OECD	8063	8214	8388	8582	7920	7973	8384	8505	8114	8355	8763	-5%
Total Oil												
Americas	6344	6223	5666	6100	4770	4536	5131	5482	4964	4907	6183	-21%
Europe	13367	13942	13825	14124	13420	14036	13451	12928	13473	13997	14587	-4%
Asia Oceania	8990	9160	9127	8783	9450	9158	8641	8529	8370	8971	8999	0%
Total OECD	28701	29326	28618	29007	27640	27731	27224	26939	26807	27875	29769	-6%

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.

Table 7a
REGIONAL OECD IMPORTS FROM NON-OECD COUNTRIES^{1,2}
(thousand barrels per day)

	2016	2017	2018	3Q18	4Q18	1Q19	2Q19	May 19	Jun 19	Jul 19	Year Earlier	
											Jul 18	% change
Crude Oil												
Americas	4428	4235	3606	3749	3051	2790	2707	2830	2802	2388	3882	-38%
Europe	9051	9436	9093	9380	8926	9100	8773	8423	8646	9396	9501	-1%
Asia Oceania	6429	6553	6210	6005	6188	6311	5734	5507	5554	5846	6226	-6%
Total OECD	19908	20224	18909	19134	18165	18201	17214	16759	17001	17631	19609	-10%
LPG												
Americas	16	16	15	14	16	27	21	17	22	22	10	107%
Europe	329	337	350	320	349	354	308	278	311	258	326	-21%
Asia Oceania	342	205	161	111	143	85	99	115	105	66	100	-33%
Total OECD	687	557	527	445	509	466	429	410	439	346	436	-21%
Naphtha												
Americas	5	16	4	2	8	1	1	0	2	1	3	-64%
Europe	329	350	360	355	305	328	322	264	314	225	355	-37%
Asia Oceania	856	931	921	906	1002	801	865	851	887	962	975	-1%
Total OECD	1189	1297	1286	1263	1315	1130	1188	1115	1204	1187	1333	-11%
Gasoline³												
Americas	246	213	271	344	210	244	367	369	339	445	345	29%
Europe	89	149	105	80	73	114	142	160	111	64	77	-16%
Asia Oceania	86	102	85	77	85	91	55	54	48	81	66	24%
Total OECD	422	464	461	501	368	449	564	584	499	590	487	21%
Jet & Kerosene												
Americas	72	67	56	49	37	45	24	17	31	67	54	24%
Europe	409	436	445	491	425	414	521	519	505	485	480	1%
Asia Oceania	73	80	89	55	121	82	60	74	33	75	63	18%
Total OECD	554	583	590	594	582	541	604	610	568	627	597	5%
Gasoil/Diesel												
Americas	37	50	100	105	114	167	40	38	44	94	75	26%
Europe	988	1086	1160	1154	1070	1228	1093	1008	1146	1021	1218	-16%
Asia Oceania	194	195	253	232	313	233	259	264	226	255	257	-1%
Total OECD	1220	1331	1513	1491	1497	1629	1392	1310	1416	1370	1549	-12%
Heavy Fuel Oil												
Americas	130	123	147	186	117	123	97	109	77	96	180	-47%
Europe	436	218	185	153	190	206	196	212	188	216	150	44%
Asia Oceania	152	146	162	151	148	101	106	130	137	90	103	-12%
Total OECD	718	487	493	490	454	430	400	450	402	402	433	-7%
Other Products												
Americas	526	542	522	541	481	345	560	534	557	651	486	34%
Europe	516	731	710	781	630	736	654	692	590	609	854	-29%
Asia Oceania	269	182	201	194	206	191	200	240	165	192	177	8%
Total OECD	1311	1455	1432	1515	1317	1272	1414	1466	1312	1451	1517	-4%
Total Products												
Americas	1031	1026	1115	1241	982	952	1110	1083	1073	1375	1153	19%
Europe	3097	3307	3314	3333	3042	3382	3236	3133	3166	2878	3459	-17%
Asia Oceania	1971	1841	1873	1726	2018	1584	1644	1727	1601	1721	1741	-1%
Total OECD	6100	6175	6302	6300	6042	5918	5990	5943	5840	5974	6353	-6%
Total Oil												
Americas	5460	5261	4721	4990	4033	3742	3818	3913	3875	3764	5035	-25%
Europe	12149	12744	12408	12714	11968	12482	12009	11556	11812	12274	12960	-5%
Asia Oceania	8400	8394	8082	7730	8206	7895	7377	7234	7155	7567	7967	-5%
Total OECD	26008	26399	25211	25434	24207	24119	23203	22702	22841	23605	25962	-9%

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

Table 7b
INTER-REGIONAL OECD TRANSFERS^{1,2}
(thousand barrels per day)

	2016	2017	2018	3Q18	4Q18	1Q19	2Q19	May 19	Jun 19	Jul 19	Year Earlier	
											Jul 18	% change
Crude Oil												
Americas	114	126	153	157	172	101	253	307	247	101	186	-46%
Europe	386	466	721	666	738	914	802	775	929	1067	694	54%
Asia Oceania	230	296	448	469	645	542	570	594	516	722	517	40%
Total OECD	730	888	1321	1292	1555	1557	1625	1676	1691	1890	1398	35%
LPG												
Americas	4	4	7	4	8	8	0	0	0	0	1	-100%
Europe	112	95	107	84	120	128	105	87	141	139	97	44%
Asia Oceania	225	346	395	393	413	502	455	449	491	518	344	51%
Total OECD	342	445	508	480	542	639	560	535	631	657	441	49%
Naphtha												
Americas	5	3	4	5	4	4	3	3	2	2	8	-79%
Europe	19	19	31	21	58	20	12	10	19	30	30	0%
Asia Oceania	52	47	97	98	83	117	90	92	58	52	67	-22%
Total OECD	77	69	132	123	145	140	105	105	78	84	105	-20%
Gasoline³												
Americas	489	514	502	624	294	351	678	881	504	656	632	4%
Europe	2	5	5	3	4	4	6	8	5	0	3	-100%
Asia Oceania	0	0	23	14	10	19	56	64	41	1	42	-97%
Total OECD	491	519	530	641	308	373	740	953	550	657	677	-3%
Jet & Kerosene												
Americas	97	104	84	130	78	93	161	155	155	145	125	16%
Europe	93	68	64	100	51	40	50	38	81	50	132	-62%
Asia Oceania	0	0	0	0	0	0	0	0	0	0	0	na
Total OECD	190	172	148	230	129	134	211	194	236	195	257	-24%
Gasoil/Diesel												
Americas	30	28	25	24	12	37	42	48	46	13	18	-27%
Europe	315	250	179	243	155	167	193	168	218	235	329	-29%
Asia Oceania	2	1	0	0	0	0	0	0	0	16	0	na
Total OECD	347	279	204	267	166	204	235	215	264	264	347	-24%
Heavy Fuel Oil												
Americas	19	8	15	9	14	26	6	6	3	0	5	-100%
Europe	25	15	12	19	18	10	28	27	38	33	29	14%
Asia Oceania	1	0	0	0	2	2	0	0	0	0	0	na
Total OECD	45	23	27	28	33	39	35	33	40	33	33	-1%
Other Products												
Americas	126	175	157	158	156	174	170	169	132	227	173	31%
Europe	266	280	298	275	307	270	247	259	231	169	314	-46%
Asia Oceania	80	77	81	78	90	82	92	97	111	95	62	53%
Total OECD	472	532	536	511	554	526	509	525	474	491	549	-11%
Total Products												
Americas	770	836	793	953	565	693	1060	1262	842	1042	962	8%
Europe	833	733	696	745	714	640	641	598	732	656	933	-30%
Asia Oceania	360	470	597	584	598	722	693	701	700	682	515	32%
Total OECD	1963	2039	2086	2282	1877	2055	2395	2562	2274	2381	2410	-1%
Total Oil												
Americas	884	962	945	1110	737	794	1314	1569	1089	1143	1148	0%
Europe	1219	1199	1417	1411	1452	1554	1443	1373	1661	1723	1628	6%
Asia Oceania	590	766	1044	1053	1244	1264	1264	1295	1215	1404	1032	36%
Total OECD	2693	2927	3407	3573	3433	3612	4020	4237	3965	4271	3807	12%

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

Table 8
REGIONAL OECD CRUDE IMPORTS BY SOURCE¹
(thousand barrels per day)

	2016	2017	2018	3Q18	4Q18	1Q19	2Q19	May 19	Jun 19	Jul 19	Year Earlier Jul 18	change
OECD Americas												
Venezuela	741	618	506	538	506	285	41	11	-	-	505	-
Other Central & South America	1023	928	795	791	655	850	882	998	836	992	912	80
North Sea	109	124	150	151	172	101	246	285	247	101	169	-68
Other OECD Europe	1	-	1	-	-	-	7	22	-	-	-	-
Non-OECD Europe	7	-	-	-	-	-	-	-	-	-	-	-
Former Soviet Union	75	121	145	217	94	151	253	249	217	179	278	-100
Saudi Arabia	1185	1043	983	1084	1037	745	607	585	634	524	1000	-476
Kuwait	209	144	78	60	38	84	48	57	26	20	63	-43
Iran	-	-	-	-	-	-	-	-	-	-	-	-
Iraq	418	605	519	459	331	374	329	366	355	350	485	-135
Oman	30	14	-	-	-	-	-	-	-	-	-	-
United Arab Emirates	11	20	5	10	-	-	-	-	-	-	-	-
Other Middle East	-	2	-	-	-	-	-	-	-	-	-	-
West Africa ²	451	497	317	232	222	165	324	380	405	229	253	-23
Other Africa	223	214	196	260	134	121	208	166	299	62	342	-280
Asia	46	26	61	103	34	16	16	19	30	32	62	-30
Other	13	4	3	-	-	-	-	-	-	-	-	-
Total	4542	4361	3759	3905	3223	2891	2961	3137	3048	2490	4068	-1579
of which Non-OECD	4428	4235	3606	3749	3051	2790	2707	2830	2802	2388	3882	-1494
OECD Europe												
Canada	32	45	81	94	44	66	34	9	54	45	126	-81
Mexico + USA	354	419	640	572	694	848	768	766	875	1022	568	454
Venezuela	74	67	57	55	92	145	73	68	65	73	58	16
Other Central & South America	170	160	132	142	134	117	76	102	73	85	108	-23
Non-OECD Europe	11	9	12	9	11	11	11	14	10	9	10	-1
Former Soviet Union	4427	4437	4154	4024	4084	4347	4018	3533	3991	4764	4325	439
Saudi Arabia	861	750	818	921	883	825	852	926	818	878	837	41
Kuwait	194	201	137	157	116	85	105	82	103	165	146	18
Iran	436	801	536	598	159	148	77	93	31	50	736	-686
Iraq	1000	995	962	1060	1060	1180	1269	1341	1322	1206	1061	145
Oman	-	-	-	-	-	-	-	-	-	-	-	-
United Arab Emirates	12	6	2	-	10	-	-	-	-	-	-	-
Other Middle East	12	1	-	-	-	2	8	-	13	7	-	-
West Africa ²	1095	960	1115	1269	1143	1146	1099	1034	1150	967	1085	-118
Other Africa	738	1045	1161	1149	1234	1074	1160	1162	1070	1194	1147	47
Asia	-	2	-	-	-	-	-	-	-	-	-	-
Other	21	5	9	-	-	18	24	69	0	-	-	-
Total	9438	9903	9816	10051	9665	10015	9575	9199	9575	10464	10207	258
of which Non-OECD	9051	9436	9093	9380	8926	9100	8773	8423	8646	9396	9501	-105
OECD Asia Oceania												
Canada	-	-	3	-	7	-	-	-	-	-	-	-
Mexico + USA	179	199	344	384	522	542	559	561	516	722	440	282
Venezuela	3	8	-	-	-	-	-	-	-	-	-	-
Other Central & South America	27	35	35	35	42	51	67	49	111	76	29	48
North Sea	51	97	100	85	117	-	11	32	-	-	78	-
Other OECD Europe	-	-	-	-	-	-	-	-	-	-	-	-
Non-OECD Europe	-	-	-	-	-	-	-	-	-	-	-	-
Former Soviet Union	341	413	435	445	459	458	402	410	460	490	527	-37
Saudi Arabia	2078	2166	2040	1879	2151	2108	1868	1799	1842	1762	1759	4
Kuwait	661	671	672	695	671	680	665	709	572	574	650	-76
Iran	469	543	274	244	11	368	184	-	-	-	367	-
Iraq	456	402	435	416	422	446	388	308	325	248	459	-210
Oman	88	42	56	68	43	54	66	82	68	95	61	34
United Arab Emirates	1154	1147	1098	1147	1135	1108	1223	1360	1187	1295	1116	178
Other Middle East	472	390	450	464	454	430	387	431	451	448	458	-10
West Africa ²	74	66	95	76	99	73	77	43	115	34	74	-40
Other Africa	62	92	105	100	122	85	72	95	66	148	50	98
Non-OECD Asia	339	325	319	296	322	264	202	185	222	189	251	-62
Other	205	253	196	140	257	185	133	35	135	486	426	60
Total	6659	6849	6657	6474	6834	6852	6304	6100	6069	6568	6743	-175
of which Non-OECD	6429	6553	6210	6005	6188	6311	5734	5507	5554	5846	6226	-380
Total OECD Trade	20639	21113	20232	20430	19721	19759	18840	18436	18693	19522	21018	-1496
of which Non-OECD	19908	20224	18909	19134	18165	18201	17214	16759	17001	17631	19609	-1978

¹ Based on Monthly Oil Questionnaire data submitted by OECD countries in tonnes, and converted to barrels at 7.37 barrels per tonne. Data will differ from Table 6

which is based on submissions in barrels.

² West Africa includes Angola, Nigeria, Gabon, Equatorial Guinea, Congo and Democratic Republic of Congo.

Table 9
REGIONAL OECD GASOLINE IMPORTS BY SOURCE¹
(thousand barrels per day)

	2016	2017	2018	3Q18	4Q18	1Q19	2Q19	May 19	Jun 19	Jul 19	Year Earlier	
											Jul 18	change
OECD Americas												
Venezuela	15	18	23	26	23	15	-	-	-	-	33	-
Other Central & South America	69	42	64	83	58	81	86	70	100	122	69	53
ARA (Belgium Germany Netherlands)	155	178	167	200	91	95	270	379	212	229	188	42
Other Europe	328	326	323	420	203	232	365	462	267	386	433	-47
FSU	90	84	80	86	52	66	88	102	82	148	101	46
Saudi Arabia	-	1	11	14	28	19	7	10	-	-	-	-
Algeria	1	-	1	1	-	-	-	-	-	-	-	-
Other Middle East & Africa	32	24	19	22	12	10	11	9	17	32	24	8
Singapore	6	10	8	16	4	-	6	19	-	17	10	8
OECD Asia Oceania	6	10	13	7	-	26	42	41	26	40	12	28
Non-OECD Asia (excl. Singapore)	64	63	84	114	48	71	180	187	143	155	128	28
Other	3	3	0	-	0	-	-	-	-	-	-	-
Total²	769	759	794	988	518	614	1056	1278	847	1130	997	133
of which Non-OECD	246	213	271	344	210	244	367	369	339	445	345	100
OECD Europe												
OECD Americas	1	4	4	3	4	3	5	7	4	-	2	-
Venezuela	0	-	0	0	-	-	-	-	-	0	0	0
Other Central & South America	1	3	5	2	9	6	2	1	1	5	6	-1
Non-OECD Europe	15	15	11	17	9	11	21	27	18	7	15	-7
FSU	84	89	70	48	64	67	76	63	93	40	45	-5
Saudi Arabia	0	0	2	3	0	1	-	-	-	1	3	-1
Algeria	1	1	0	-	1	0	0	0	-	-	-	-
Other Middle East & Africa	2	5	4	4	5	6	4	1	8	4	4	0
Singapore	1	2	2	2	2	2	4	2	3	2	2	0
OECD Asia Oceania	1	1	1	0	-	1	1	2	1	-	1	-
Non-OECD Asia (excl. Singapore)	1	3	2	0	6	0	-	-	-	0	0	0
Other	-3	41	20	14	-9	30	43	75	-3	12	14	-2
Total²	104	163	122	93	90	126	156	179	124	72	92	-19
of which Non-OECD	89	149	105	80	73	114	142	160	111	64	77	-13
OECD Asia Oceania												
OECD Americas	0	-	4	5	-	5	-	-	-	1	14	-13
Venezuela	-	-	-	-	-	-	-	-	-	-	-	-
Other Central & South America	-	0	-	-	-	-	-	-	-	-	-	-
ARA (Belgium Germany Netherlands)	-	-	13	9	10	8	40	49	23	-	28	-
Other Europe	-	-	7	-	-	6	15	15	18	-	-	-
FSU	-	-	1	-	-	-	1	2	-	-	-	-
Saudi Arabia	0	0	0	-	2	3	-	-	-	-	-	-
Algeria	-	-	-	-	-	-	-	-	-	-	-	-
Other Middle East & Africa	-	5	1	5	-	-	-	-	-	-	-	-
Singapore	44	52	49	37	48	43	27	32	24	39	40	-2
Non-OECD Asia (excl. Singapore)	27	30	19	20	21	29	11	6	9	28	11	17
Other	16	15	15	15	15	17	15	15	15	15	15	0
Total²	87	102	109	91	95	110	110	118	89	82	108	-26
of which Non-OECD	86	102	85	77	85	91	55	54	48	81	66	15
Total OECD Trade²	960	1024	1025	1173	703	850	1323	1575	1060	1285	1197	88
of which Non-OECD	422	464	461	501	368	449	564	584	499	590	487	103

¹ Based on Monthly Oil Questionnaire data submitted by OECD countries in tonnes.

² Total figure excludes intra-regional trade.

Table 10
REGIONAL OECD GASOIL/DIESEL IMPORTS BY SOURCE¹
(thousand barrels per day)

	2016	2017	2018	3Q18	4Q18	1Q19	2Q19	May 19	Jun 19	Jul 19	Year Earlier	
											Jul 18	change
OECD Americas												
Venezuela	0	2	4	8	7	3	-	-	-	-	11	-
Other Central and South America	10	13	30	25	46	29	35	28	38	59	8	51
ARA (Belgium Germany Netherlands)	3	7	6	4	-	-	1	4	-	-	-	-
Other Europe	9	3	3	-	-	2	4	-	13	3	-	-
FSU	15	6	16	31	7	7	2	-	6	10	9	1
Saudi Arabia	1	2	17	20	24	13	-	-	-	-	12	-
Algeria	-	-	-	-	-	-	-	-	-	-	-	-
Other Middle East and Africa	3	4	8	10	4	8	-	-	-	-	25	-
Singapore	1	0	1	-	3	0	-	-	-	-	-	-
OECD Asia Oceania	18	18	15	21	12	35	36	43	33	10	18	-8
Non-OECD Asia (excl. Singapore)	9	22	23	11	22	78	3	10	-	25	10	15
Other	0	0	-	-	-	28	-	-	-	-	-	-
Total²	68	77	124	130	125	204	81	85	90	107	93	15
of which Non-OECD	37	50	100	105	114	167	40	38	44	94	75	19
OECD Europe												
OECD Americas	276	222	154	227	128	126	159	131	196	197	315	-117
Venezuela	-	-	-	-	-	-	-	-	-	-	-	-
Other Central and South America	3	3	4	1	1	-	0	-	-	-	2	-
Non-OECD Europe	48	48	39	44	41	41	37	39	35	55	55	0
FSU	663	732	714	684	641	770	656	623	638	601	704	-103
Saudi Arabia	130	160	225	205	196	208	222	193	285	177	202	-25
Algeria	1	-	-	-	-	-	-	-	-	-	-	-
Other Middle East and Africa	70	72	76	90	94	94	89	117	73	62	87	-25
Singapore	20	15	14	13	20	8	27	16	32	38	9	29
OECD Asia Oceania	40	28	25	16	27	41	34	37	22	38	15	23
Non-OECD Asia (excl. Singapore)	172	125	151	171	128	188	137	97	142	129	208	-79
Other	-18	21	12	12	16	6	7	6	15	27	15	11
Total²	1404	1427	1414	1463	1293	1482	1369	1260	1439	1324	1612	-287
of which Non-OECD	988	1086	1160	1154	1070	1228	1093	1008	1146	1021	1218	-197
OECD Asia Oceania												
OECD Americas	2	1	-	-	-	-	-	-	-	16	-	-
Venezuela	-	-	-	-	-	-	-	-	-	-	-	-
Other Central and South America	-	0	-	-	-	-	-	-	-	-	-	-
ARA (Belgium Germany Netherlands)	-	-	-	-	-	-	-	-	-	-	-	-
Other Europe	-	-	-	-	-	-	-	-	-	-	-	-
FSU	5	5	4	4	5	5	4	4	3	5	4	0
Saudi Arabia	1	-	3	-	9	-	-	-	-	-	-	-
Algeria	-	-	-	-	-	-	-	-	-	-	-	-
Other Middle East and Africa	2	1	8	1	32	10	9	-	-	-	-	-
Singapore	86	87	141	101	174	93	121	102	105	94	105	-11
Non-OECD Asia (excl. Singapore)	95	96	91	120	88	119	121	153	112	151	141	9
Other	6	7	6	6	6	6	6	6	6	6	6	0
Total²	196	196	253	232	313	233	259	264	226	270	257	14
of which Non-OECD	194	195	253	232	313	233	259	264	226	255	257	-2
Total OECD Trade²	1669	1701	1791	1825	1731	1919	1710	1609	1755	1702	1961	-259
of which Non-OECD	1220	1331	1513	1491	1497	1629	1392	1310	1416	1370	1549	-179

¹ Based on Monthly Oil Questionnaire data submitted by OECD countries in tonnes.

² Total figure excludes intra-regional trade.

Table 11
REGIONAL OECD JET AND KEROSENE IMPORTS BY SOURCE¹
(thousand barrels per day)

	2016	2017	2018	3Q18	4Q18	1Q19	2Q19	May 19	Jun 19	Jul 19	Year Earlier	
											Jul 18	change
OECD Americas												
Venezuela	11	16	6	2	1	1	0	-	0	-	6	-
Other Central and South America	0	1	2	1	7	6	1	-	-	14	3	11
ARA (Belgium Germany Netherlands)	0	-	0	1	-	-	-	-	-	-	-	-
Other Europe	-	0	0	-	-	-	-	-	-	-	-	-
FSU	0	1	0	-	-	-	-	-	-	-	-	-
Saudi Arabia	1	2	1	-	2	9	1	-	-	-	-	-
Algeria	-	0	-	-	-	-	-	-	-	-	-	-
Other Middle East and Africa	1	3	2	1	0	4	9	17	11	29	0	29
Singapore	0	2	6	5	8	3	6	-	15	1	4	-4
OECD Asia Oceania	97	104	84	129	78	93	161	155	155	145	125	20
Non-OECD Asia (excl. Singapore)	55	30	27	28	9	12	6	-	5	23	27	-4
Other	3	13	11	12	11	11	-	-	-	-	13	-
Total²	169	171	140	178	115	138	185	172	186	212	179	33
of which Non-OECD	72	67	56	49	37	45	24	17	31	67	54	13
OECD Europe												
OECD Americas	38	20	32	30	30	19	13	3	31	24	39	-15
Venezuela	6	5	1	1	0	-	-	-	-	-	2	-
Other Central and South America	1	2	2	2	1	3	-	-	-	-	4	-
Non-OECD Europe	4	3	6	17	6	-	6	9	9	2	34	-33
FSU	44	33	40	54	37	38	56	61	62	56	55	2
Saudi Arabia	112	94	98	109	102	88	112	125	67	119	84	35
Algeria	14	12	9	8	8	12	-	-	-	8	8	0
Other Middle East and Africa	178	207	197	201	172	193	237	216	293	227	173	54
Singapore	14	28	25	39	27	11	33	34	43	19	56	-38
OECD Asia Oceania	55	48	32	70	21	21	37	35	50	26	93	-67
Non-OECD Asia (excl. Singapore)	51	53	69	62	73	74	80	77	38	54	67	-14
Other	-7	1	1	2	0	0	0	0	-	3	-	-
Total²	509	508	512	595	478	459	574	561	592	538	616	-78
of which Non-OECD	409	436	445	491	425	414	521	519	505	485	480	5
OECD Asia Oceania												
OECD Americas	-	-	-	-	-	-	-	-	-	-	-	-
Venezuela	-	-	-	-	-	-	-	-	-	-	-	-
Other Central and South America	-	-	-	-	-	-	-	-	-	-	-	-
ARA (Belgium Germany Netherlands)	-	-	-	-	-	-	-	-	-	-	-	-
Other Europe	-	-	-	-	-	-	-	-	-	-	-	-
FSU	-	-	-	-	-	-	-	-	-	-	-	-
Saudi Arabia	-	-	1	-	-	-	-	-	-	-	-	-
Algeria	-	-	-	-	-	-	-	-	-	-	-	-
Other Middle East and Africa	-	1	1	-	5	-	-	-	-	-	-	-
Singapore	24	23	28	36	19	22	19	23	18	19	50	-31
Non-OECD Asia (excl. Singapore)	36	34	26	6	42	27	21	23	-	48	4	44
Other	13	22	33	13	54	33	19	28	15	8	9	-1
Total²	73	80	89	55	121	82	60	74	33	75	63	12
of which Non-OECD	73	80	89	55	121	82	60	74	33	75	63	12
Total OECD Trade²	751	758	741	829	713	679	819	807	810	825	858	-33
of which Non-OECD	554	583	590	594	582	541	604	610	568	627	597	30

¹ Based on Monthly Oil Questionnaire data submitted by OECD countries in tonnes.

² Total figure excludes intra-regional trade.

Table 12
REGIONAL OECD RESIDUAL FUEL OIL IMPORTS BY SOURCE¹
(thousand barrels per day)

	2016	2017	2018	3Q18	4Q18	1Q19	2Q19	May 19	Jun 19	Jul 19	Year Earlier	
											Jul 18	change
OECD Americas												
Venezuela	17	16	42	65	27	27	-	-	-	-	72	-
Other Central and South America	49	71	72	80	63	56	51	70	37	53	75	-22
ARA (Belgium Germany Netherlands)	12	5	7	3	12	12	1	-	3	-	5	-
Other Europe	7	3	7	7	2	14	5	6	-	-	-	-
FSU	49	24	23	31	15	16	39	36	29	36	32	4
Saudi Arabia	0	-	-	-	-	8	-	-	-	-	-	-
Algeria	4	1	-	-	-	10	5	3	6	2	-	-
Other Middle East and Africa	10	9	7	12	11	3	2	-	6	5	1	5
Singapore	1	3	-	-	-	4	-	-	-	-	-	-
OECD Asia Oceania	-	-	-	-	-	-	-	-	-	-	-	-
Non-OECD Asia (excl. Singapore)	-	1	0	-	1	-	0	-	-	-	-	-
Other	0	0	2	0	-	-	-	-	-	-	1	-
Total²	149	131	161	197	130	149	104	115	80	96	184	-89
of which Non-OECD	130	123	147	186	117	123	97	109	77	96	180	-84
OECD Europe												
OECD Americas	15	6	4	11	5	1	8	-	20	13	21	-9
Venezuela	-	-	-	-	-	-	-	-	-	-	-	-
Other Central and South America	5	2	3	-	-	6	4	8	4	5	-	-
Non-OECD Europe	15	17	17	18	16	16	29	21	46	21	12	9
FSU	448	195	154	130	155	158	146	165	151	156	139	16
Saudi Arabia	-	0	1	-	-	-	-	-	-	-	-	-
Algeria	3	1	1	2	-	1	-	-	-	-	-	-
Other Middle East and Africa	16	23	15	10	19	12	17	10	15	38	11	27
Singapore	0	-	-	-	-	-	-	-	-	-	-	-
OECD Asia Oceania	10	9	8	8	12	10	21	27	17	20	7	13
Non-OECD Asia (excl. Singapore)	0	1	0	-	0	7	1	-	1	-	-	-
Other	-18	-8	5	8	4	14	10	7	3	10	3	6
Total²	496	246	208	188	212	223	235	239	258	262	194	68
of which Non-OECD	436	218	185	153	190	206	196	212	188	216	150	66
OECD Asia Oceania												
OECD Americas	-	0	0	-	2	2	-	-	-	-	-	-
Venezuela	-	-	-	-	-	-	-	-	-	-	-	-
Other Central and South America	-	-	-	-	-	-	-	-	-	-	-	-
ARA (Belgium Germany Netherlands)	-	-	-	-	-	-	-	-	-	-	-	-
Other Europe	1	-	-	-	-	-	-	-	-	-	-	-
FSU	4	9	16	24	19	7	0	-	0	9	27	-18
Saudi Arabia	-	-	-	-	-	-	-	-	-	-	-	-
Algeria	-	1	-	-	-	-	-	-	-	-	-	-
Other Middle East and Africa	5	18	23	23	16	9	27	49	32	27	4	23
Singapore	73	58	37	29	24	36	21	15	29	47	24	23
Non-OECD Asia (excl. Singapore)	69	59	85	75	88	48	53	58	69	8	47	-40
Other	1	0	0	0	1	0	5	8	5	-	1	-
Total²	153	146	162	151	149	103	106	130	137	90	103	-13
of which Non-OECD	152	146	162	151	148	101	106	130	137	90	103	-13
Total OECD Trade²	798	523	531	535	492	475	445	483	474	448	482	-34
of which Non-OECD	718	487	493	490	454	430	400	450	402	402	433	-31

¹ Based on Monthly Oil Questionnaire data submitted by OECD countries in tonnes.

² Total figure excludes intra-regional trade.

Table 13

AVERAGE IEA CIF CRUDE COST AND SPOT CRUDE AND PRODUCT PRICES

Table Unavailable
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Table 14
MONTHLY AVERAGE END-USER PRICES FOR PETROLEUM PRODUCTS

September 2019

NATIONAL CURRENCY *							US DOLLARS					
Total	% change from		Ex-Tax	% change from			Total	% change from		Ex-Tax	% change from	
Price	Aug-19	Sep-18	Price	Aug-19	Sep-18		Price	Aug-19	Sep-18	Price	Aug-19	Sep-18
GASOLINE ¹ (per litre)												
France	1.495	- 0.5	- 3.8	0.555	-1.1	-8.1	1.646	-1.5	-9.2	0.611	-2.1	-13.3
Germany	1.408	- 1.3	- 6.8	0.528	-2.9	-14.1	1.550	-2.4	-12.0	0.581	-4.0	-19.0
Italy	1.576	- 0.1	- 3.9	0.564	-0.2	-8.4	1.735	-1.1	-9.3	0.621	-1.2	-13.6
Spain	1.310	- 0.7	- 1.9	0.610	-1.1	-5.1	1.442	-1.7	-7.5	0.671	-2.2	-10.5
United Kingdom	1.273	- 0.9	- 2.3	0.481	-1.8	-4.9	1.573	0.8	-7.6	0.594	-0.2	-10.1
Japan	143.7	- 0.6	- 6.3	76.5	-1.0	-10.3	1.337	-1.7	-2.3	0.712	-2.1	-6.6
Canada	1.203	- 0.2	- 9.8	0.809	-0.2	-13.3	0.908	0.1	-11.2	0.611	-0.0	-14.6
United States	0.685	- 1.0	- 8.5	0.558	-1.8	-10.7	0.685	-1.0	-8.5	0.558	-1.8	-10.7
AUTOMOTIVE DIESEL FOR NON COMMERCIAL USE (per litre)												
France	1.433	1.3	- 2.8	0.585	2.6	-5.3	1.577	0.2	-8.3	0.644	1.6	-10.7
Germany	1.248	1.1	- 5.9	0.579	2.1	-10.1	1.374	0.1	-11.2	0.637	1.0	-15.2
Italy	1.468	0.2	- 3.5	0.586	0.3	-7.0	1.616	-0.8	-8.9	0.645	-0.7	-12.2
Spain	1.212	0.5	- 2.6	0.623	0.8	-5.7	1.334	-0.6	-8.1	0.686	-0.2	-11.1
United Kingdom	1.319	- 0.5	- 1.9	0.519	-1.1	-3.9	1.629	1.1	-7.2	0.641	0.5	-9.1
Japan	125.0	- 0.6	- 5.2	83.2	-1.0	-7.1	1.163	-1.7	-1.3	0.774	-2.0	-3.3
Canada	1.202	1.5	- 7.4	0.893	1.9	-9.2	0.908	1.8	-8.8	0.674	2.2	-10.7
United States	0.797	0.4	- 7.5	0.649	-	-9.6	0.797	0.4	-7.5	0.649	-	-9.6
DOMESTIC HEATING OIL (per litre)												
France	0.930	2.6	- 1.2	0.619	3.3	-1.4	1.023	1.6	-6.7	0.681	2.2	-7.0
Germany	0.710	1.5	- 11.2	0.535	1.6	-12.3	0.782	0.4	-16.2	0.589	0.6	-17.3
Italy	1.310	1.2	0.5	0.671	1.9	0.8	1.443	0.1	-5.2	0.739	0.9	-4.9
Spain	0.784	2.0	- 1.6	0.552	2.3	-3.0	0.863	0.9	-7.2	0.607	1.3	-8.4
United Kingdom	0.602	1.8	- 4.6	0.462	2.3	-5.6	0.743	3.5	-9.8	0.570	3.9	-10.8
Japan ²	90.2	- 0.6	- 2.2	80.7	-0.6	-2.3	0.840	-1.6	1.9	0.751	-1.6	1.8
Canada	1.125	0.7	- 3.1	1.011	0.7	-3.3	0.850	0.9	-4.6	0.763	1.0	-4.8
United States	-	-	-	-	-	-	-	-	-	-	-	-
LOW SULPHUR FUEL OIL FOR INDUSTRY ³ (per kg)												
France	0.548	- 1.7	- 6.7	0.408	-2.3	-8.8	0.603	-2.7	-12.0	0.449	-3.3	-14.0
Germany	-	-	-	-	-	-	-	-	-	-	-	-
Italy	0.463	- 0.7	- 1.0	0.432	-0.8	-1.1	0.510	-1.7	-6.6	0.475	-1.8	-6.7
Spain	0.433	- 1.2	- 4.7	0.416	-1.3	-5.0	0.477	-2.3	-10.1	0.458	-2.3	-10.3
United Kingdom	-	-	-	-	-	-	-	-	-	-	-	-
Japan	-	-	-	-	-	-	-	-	-	-	-	-
Canada	-	-	-	-	-	-	-	-	-	-	-	-
United States	-	-	-	-	-	-	-	-	-	-	-	-

¹ Unleaded premium (95 RON) for France, Germany, Italy, Spain, UK; regular unleaded for Canada, Japan and the United States.

² Kerosene for Japan.

³ VAT excluded from prices for low sulphur fuel oil when refunded to industry.

* Prices for France, Germany, Italy and Spain are in Euros; UK in British Pounds, Japan in Yen, Canada in Canadian Dollars.

Table 15
IEA/KBC Global Indicator Refining Margins¹
 (\$/bbl)

	Monthly Average				Change	Average for week ending:					
	Jun 19	Jul 19	Aug 19	Sep 19	Sep 19-Aug 19	06 Sep	13 Sep	20 Sep	27 Sep	04 Oct	
NW Europe											
Brent (Cracking)	3.78	6.79	7.62	6.50	↓	-1.12	5.69	5.37	7.44	7.19	8.82
Urals (Cracking)	4.67	6.55	5.64	6.61	↑	0.98	5.35	5.57	7.17	8.05	8.26
Brent (Hydroskimming)	1.52	4.18	4.40	4.41	↑	0.01	2.90	2.95	5.51	6.06	6.32
Urals (Hydroskimming)	0.81	2.46	-0.60	1.38	↑	1.98	-0.86	-0.14	2.79	3.74	1.31
Mediterranean											
Es Sider (Cracking)	4.58	7.93	8.26	7.63	↓	-0.63	6.44	6.71	8.61	8.52	9.34
Urals (Cracking)	4.97	6.62	5.00	7.24	↑	2.24	5.38	6.09	8.21	8.85	9.32
Es Sider (Hydroskimming)	2.44	5.62	5.35	5.22	↓	-0.13	3.57	3.96	6.42	6.80	6.64
Urals (Hydroskimming)	0.69	2.30	-1.65	1.24	↑	2.89	-1.49	-0.66	2.93	4.01	1.93
US Gulf Coast											
Mars (Cracking)	4.66	6.02	2.50	2.65	↑	0.16	1.53	1.69	2.86	3.79	5.87
50/50 HLS/LLS (Coking)	11.13	13.75	11.61	10.22	↓	-1.39	9.29	9.64	10.46	10.90	13.07
50/50 Maya/Mars (Coking)	6.27	8.04	9.16	5.30	↓	-3.86	4.69	5.95	4.23	5.91	8.23
ASCI (Coking)	8.36	9.60	8.87	8.56	↓	-0.31	7.77	8.49	7.74	9.59	11.29
US Midwest											
30/70 WCS/Bakken (Cracking)	18.88	18.77	11.05	12.11	↑	1.07	10.22	10.90	13.45	13.11	14.91
Bakken (Cracking)	20.51	20.41	13.98	14.85	↑	0.87	12.79	14.09	15.40	16.17	17.63
WTI (Coking)	21.13	21.02	14.39	13.37	↓	-1.01	11.27	12.74	13.59	14.91	16.36
30/70 WCS/Bakken (Coking)	21.07	20.87	14.79	15.24	↑	0.44	12.95	14.15	16.06	16.80	18.39
Singapore											
Dubai (Hydroskimming)	-0.07	3.56	0.29	3.07	↑	2.78	1.09	2.96	6.29	2.60	-0.15
Tapis (Hydroskimming)	-0.62	3.78	2.10	1.27	↓	-0.83	-0.72	0.33	3.63	1.89	1.47
Dubai (Hydrocracking)	2.87	5.61	4.66	6.18	↑	1.51	5.18	6.29	7.54	5.95	5.60
Tapis (Hydrocracking)	-0.55	3.48	4.70	3.64	↓	-1.06	2.09	2.85	5.01	4.40	5.48

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)

Table 16
REFINED PRODUCT YIELDS BASED ON TOTAL INPUT (%)¹

	May-19	Jun-19	Jul-19	Jul-18	Jul 19 vs Previous Month	Jul 19 vs Previous Year	Jul 19 vs 5 Year Average	5 Year Average
OECD Americas								
Naphtha	1.4	1.3	1.3	1.5	0.0	-0.1	-0.4	1.7
Motor gasoline	44.3	44.0	44.2	44.4	0.2	-0.2	-1.1	45.2
Jet fuel	9.3	9.6	9.9	10.0	0.2	-0.1	0.6	9.3
Other kerosene	0.1	0.0	0.1	0.1	0.0	0.0	-0.1	0.2
Gasoil/diesel oil	28.8	28.4	27.8	27.9	-0.6	-0.1	-0.4	28.2
Residual fuel oil	3.2	3.3	2.9	3.5	-0.3	-0.6	-0.6	3.6
Petroleum coke	4.0	4.2	4.4	4.4	0.2	0.0	-0.3	4.7
Other products	13.1	13.1	13.6	13.0	0.5	0.5	0.4	13.2
OECD Europe								
Naphtha	8.3	7.8	8.0	7.9	0.3	0.1	0.7	7.3
Motor gasoline	20.3	20.9	20.4	20.2	-0.5	0.1	-0.3	20.6
Jet fuel	9.0	8.8	9.8	9.5	0.9	0.3	1.0	8.8
Other kerosene	2.1	1.9	2.0	1.8	0.0	0.2	0.1	1.9
Gasoil/diesel oil	40.2	39.5	39.7	39.1	0.2	0.6	-0.3	40.0
Residual fuel oil	8.3	8.5	8.2	9.4	-0.3	-1.2	-0.9	9.1
Petroleum coke	1.4	1.4	1.4	1.3	0.0	0.1	0.1	1.2
Other products	15.1	15.8	15.6	14.9	-0.2	0.7	0.3	15.3
OECD Asia Oceania								
Naphtha	16.3	16.6	15.8	15.5	-0.8	0.3	1.4	14.4
Motor gasoline	21.6	21.5	21.6	21.9	0.0	-0.3	-0.9	22.5
Jet fuel	15.3	15.6	14.9	15.0	-0.7	-0.1	-0.1	15.0
Other kerosene	2.8	2.1	2.8	1.9	0.6	0.8	0.4	2.3
Gasoil/diesel oil	30.8	30.5	30.6	29.2	0.1	1.3	0.9	29.7
Residual fuel oil	5.7	5.3	6.0	7.2	0.7	-1.3	-1.3	7.3
Petroleum coke	0.4	0.5	0.5	0.4	0.0	0.0	0.0	0.5
Other products	13.0	12.8	12.5	12.5	-0.3	0.0	0.0	12.6
OECD Total								
Naphtha	6.2	5.9	6.0	6.0	0.1	0.0	0.3	5.7
Motor gasoline	32.7	33.0	32.6	32.6	-0.5	0.0	-0.7	33.3
Jet fuel	10.2	10.4	10.7	10.7	0.3	0.1	0.6	10.1
Other kerosene	1.2	1.0	1.2	1.0	0.2	0.2	0.1	1.1
Gasoil/diesel oil	32.8	32.2	32.1	31.8	-0.1	0.3	-0.2	32.3
Residual fuel oil	5.2	5.2	5.2	6.1	-0.1	-0.9	-0.8	6.0
Petroleum coke	2.6	2.7	2.7	2.7	0.1	0.0	-0.1	2.8
Other products	13.7	13.9	14.0	13.6	0.1	0.5	0.3	13.8

¹ Due to processing gains and losses, yields in % will not always add up to 100%

Table 17
WORLD BIOFUELS PRODUCTION
(thousand barrels per day)

	2017	2018	2019	4Q18	1Q19	2Q19	Jul 19	Aug 19	Sep 19
ETHANOL									
OECD Americas¹	1062	1081	1068	1073	1048	1083	1086	1067	1067
United States	1032	1048	1032	1040	1012	1047	1050	1031	1031
Other	30	33	36	33	36	36			
OECD Europe²	88	93	93	91	94	100	106	86	86
France	13	16	15	17	15	18	22	11	11
Germany	14	16	16	14	18	21	21	11	11
Spain	7	9	9	9	8	7	8	11	11
United Kingdom	11	9	8	9	11	9	10	4	4
Other	42	43	46	42	43	45			
OECD Asia Oceania³	3	5	5	5	5	5	5	6	6
Australia	3	4	4	4	5	4	4	4	4
Other	0	1	1	1	1	1			
Total OECD Ethanol	1153	1179	1167	1169	1147	1188	1196	1159	1159
Total Non-OECD Ethanol	627	713	772	618	331	943	1211	1260	1100
Brazil	478	547	579	453	138	751	1020	1069	908
China	71	70	69	77	69	67			
Argentina	15	19	19	19	19	19			
Other	64	77	105	70	105	105	192	192	192
TOTAL ETHANOL	1780	1892	1939	1788	1478	2131	2407	2420	2259
BIODIESEL									
OECD Americas¹	111	128	141	137	115	122	127	171	171
United States	104	121	133	129	110	117	122	159	159
Other	7	7	8	7	5	5			
OECD Europe²	265	257	275	247	247	271	276	293	293
France	47	48	51	49	49	54	58	50	50
Germany	62	58	58	52	50	57	58	64	64
Italy	13	14	26	14	30	25			
Spain	34	36	35	36	30	31	31	41	41
Other	108	101	104	95	88	104	111	112	112
OECD Asia Oceania³	12	14	15	11	10	17	17	16	16
Australia	1	1	1	1	0	0	0	1	1
Other	11	13	14	10	10	17			
Total OECD Biodiesel	388	399	431	394	372	410	420	481	481
Total Non-OECD Biodiesel	293	325	360	326	360	359	360	360	360
Brazil	74	92	95	100	93	95	101	102	93
Argentina*	56	51	53	51	53	53			
Other	163	182	213	175	215	211			
TOTAL BIODIESEL	680	725	791	720	732	769	781	841	841
GLOBAL BIOFUELS	2460	2616	2730	2508	2210	2900	3188	3261	3100

¹ As of August 2012 OMR, OECD Americas includes Chile.

² As of August 2012 OMR, OECD Europe includes Estonia and Slovenia.

³ As of August 2012 OMR, OECD Asia Oceania includes Israel.

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Oil Market Report – 2020 Publication Dates

Thursday	16 January
Thursday	13 February
Monday	9 March ⁽¹⁾
Wednesday	15 April
Thursday	14 May
Tuesday	16 June ⁽²⁾
Friday	10 July
Thursday	13 August ⁽³⁾
Tuesday	15 September
Wednesday	14 October
Thursday	12 November
Tuesday	15 December

⁽¹⁾ The OMR of 9th March 2020 will comprise the usual data and projections through end-2020, but with abridged text.

The five-year outlook Oil 2020 – Analysis and Forecasts to 2025^{''} will also be released on 9th March 2020.

⁽²⁾ Supply/demand forecasts will be extended through 2021 in the June OMR.

⁽³⁾ The *Annual Statistical Supplement 2020 Edition* will be published in conjunction with the August OMR.

NB: On all of these dates, the report will be released at 10H00 Paris local time.

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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 9 August 2019), readers are referred to the Users' Guide at www.oilmarketreport.org/glossary.asp. It should be noted that the spot crude and product price assessments are based on daily Argus prices, converted when appropriate to US\$ per barrel according to the Argus specification of products (Copyright © 2019 Argus Media Limited - all rights reserved)