

Oil Market Report

14 June 2019

HIGHLIGHTS

- **Our estimate for global oil demand growth in 2019 has been cut for a second consecutive month. It is now projected at 1.2 mb/d.** In 1Q19, global growth was only 0.3 mb/d, and for 2Q19 the estimate is 1.2 mb/d. We expect higher growth in 2H19 at 1.6 mb/d.
- **In 2020, global oil demand growth will rise to 1.4 mb/d,** supported by solid non-OECD demand and petrochemicals expansion. The IMO switch will result in major changes to bunker fuel demand, sharply increasing gasoil demand from 4Q19.
- **Non-OPEC supply growth will accelerate from 1.9 mb/d this year to 2.3 mb/d in 2020.** The US leads the gains, but solid growth also comes from Brazil and Norway. In May, global oil supply eased by 0.1 mb/d to 99.5 mb/d, down 2.8 mb/d from the November peak.
- **The call on OPEC crude drops to 29.3 mb/d in 2020, 650 kb/d below the May output level.** OPEC supply fell to its lowest since 2014 as Iranian supply plunged due to sanctions and on lower Saudi and Nigerian output. OPEC's effective spare capacity was 3.2 mb/d.
- **Global refinery throughput in May was at its lowest level in two years on maintenance and unplanned outages.** By August, refinery runs could be more than 4 mb/d higher. In 2019-20, the global refining industry will add 3.5 mb/d of new capacity.
- **OECD oil stocks rose by 15.8 mb in April to 2 883 mb,** and are slightly above the five-year average. In days of forward demand, stocks amount to 59.9 days, 1.6 days below the average. Preliminary data for May show a significant build in US crude stocks.
- **Benchmark crude futures prices have fallen by 20% since late April partly due to concerns about the health of oil demand.** However, the Brent forward curve remains in backwardation suggesting tight prompt markets. Gasoline cracks were pressured by abundant supplies.

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2020 vision

In this *Report*, we publish our first outlook for 2020. As we do so, volatility has returned to oil markets with a dramatic sell-off in late May seeing Brent prices fall from \$70/bbl to \$60/bbl. Until recently, the focus has been on the supply side with the familiar list of uncertainties – Iran, Venezuela, Libya, and the Vienna Agreement – lifting Brent prices above \$70/bbl in early April and keeping them there until late May. Not that supply concerns have gone away: yesterday oil prices initially increased by 4% on news of the attacks on two tankers in the Gulf of Oman, before easing back slightly.

Now, the main focus is on oil demand as economic sentiment weakens. In May, the OECD published an outlook for global GDP growth for 2019 of 3.2%, lower than our previous assumption. World trade growth has fallen back to its slowest pace since the financial crisis ten years ago, according to data from the Netherlands Bureau of Economic Policy Analysis and various purchasing managers' indices.

The consequences for oil demand are becoming apparent. In 1Q19, growth was only 0.3 mb/d versus a very strong 1Q18, the lowest for any quarter since 4Q11. The main weakness was in OECD countries where demand fell by a significant 0.6 mb/d, spread across all regions. There were various factors: a warm winter in Japan, a slowdown in the petrochemicals industry in Europe, and tepid gasoline and diesel demand in the United States, with the worsening trade outlook a common theme across all regions. In contrast, the non-OECD world saw demand rise by 0.9 mb/d, although recent data for China suggest that growth in April was a lacklustre 0.2 mb/d. In 2Q19, we see global demand growth 0.1 mb/d lower than in last month's *Report*. For now though, there is optimism that the latter part of this year and next year will see an improved economic picture. The OECD sees global GDP growth rebounding to 3.4% in 2020, assuming that trade disputes are resolved and confidence rebuilds. This suggests that global oil demand growth will have scope to recover from 1.2 mb/d in 2019 to 1.4 mb/d in 2020.

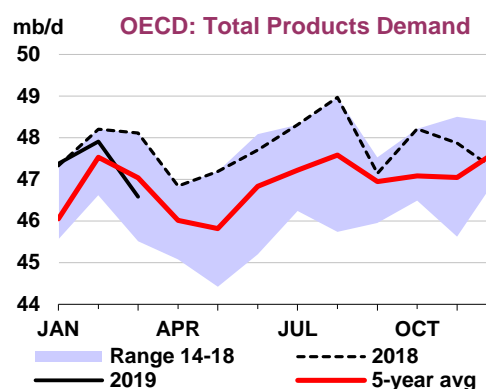
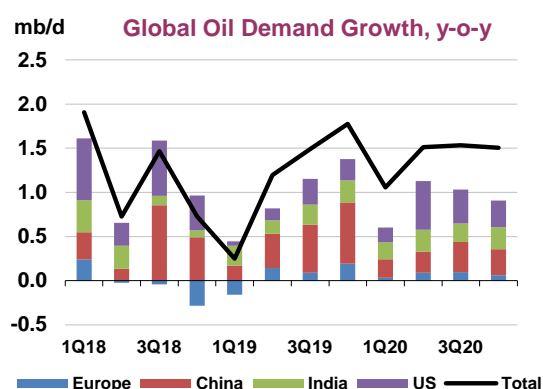
Meeting the expected demand growth is unlikely to be a problem. Plentiful supply will be available from non-OPEC countries. The US will contribute 90% of this year's 1.9 mb/d increase in supply and in 2020 non-OPEC growth will be significantly higher at 2.3 mb/d with US gains supported by important contributions from Brazil, Canada, and Norway. Later this month, Vienna Agreement oil ministers, faced with short-term uncertainty over the strength of demand and relentless supply growth from their competitors, are due to discuss the fate of their output deal. Ministers will note that OECD oil stocks remain at comfortable levels 16 mb above the five-year average. However, they will also note that although in 1Q19 weak demand helped create a surplus of 1.1 mb/d, in 2Q19 the market is in deficit by an estimated 0.4 mb/d, with the backwardated price structure reflecting tighter markets. This deficit is partly due to the fact that in May the Vienna Agreement countries cut output by 0.5 mb/d in excess of their committed 1.2 mb/d. In 3Q19, the market could receive further support from an expected pick-up in refining activity. Recently, high levels of maintenance in the US and Europe, low runs in Japan and Korea, and fallout from the Druzhba pipeline contamination contributed to weak growth in global refining throughput. This could be about to change: according to our estimates, crude runs in August could be about 4 mb/d higher than in May. This might cause greater tightness in crude markets, particularly for sour barrels if the Vienna Agreement is extended and there is no change in the situations in Iran and Venezuela. Of course, much depends on the strength of oil demand later in the year.

A clear message from our first look at 2020 is that there is plenty of non-OPEC supply growth available to meet any likely level of demand, assuming no major geopolitical shock, and the OPEC countries are sitting on 3.2 mb/d of spare capacity. This is welcome news for consumers and the wider health of the currently vulnerable global economy, as it will limit significant upward pressure on oil prices. However, this must be viewed against the needs of producers particularly with regard to investment in the new capacity that will be needed in the medium term.

DEMAND

Summary

For the second consecutive month, we have revised down our 2019 oil demand growth forecast, this time by 100 kb/d, to 1.2 mb/d. The bulk of the revision is in the OECD. We received lower March consumption statistics for the Americas, which drove our overall OECD 1Q19 growth estimate down by 360 kb/d versus last month's *Report*. Global oil demand is now estimated to have risen by just 250 kb/d year-on-year (y-o-y) in 1Q19, the lowest annual growth registered since 4Q11, when the price of Brent crude oil averaged \$109/bbl. Oil consumption fell in the OECD by 600 kb/d y-o-y and rose in non-OECD countries by 850 kb/d. A global economic slowdown, lower growth in the petrochemical industry and warmer than normal weather in the northern hemisphere were contributory factors. One should also bear in mind that annual growth in 1Q18 amounted to a significant 1.9 mb/d. This also contributed to low growth on a y-o-y basis.



This month, we have also revised down our 2Q19 growth estimates by 300 kb/d. China's April oil demand was 230 kb/d less than expected, owing to significant downgrades for diesel and LPG. However, these lower global estimates for 1Q19 and 2Q19 are partly offset by higher forecasts for 3Q19 (+200 kb/d) and 4Q19 (+80 kb/d) driven by lower oil prices and an expected rebound in petrochemical demand. We have also incorporated a new gross domestic product (GDP) forecast published by the OECD in May.

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	4.3	4.2	4.3	4.3	4.4	4.4	4.2	4.4	4.4	4.5	4.4	4.3	4.4	4.4
Americas	31.6	31.7	32.3	32.1	31.9	31.4	31.9	32.6	32.3	32.1	31.6	32.5	33.1	32.7	32.5
Asia/Pacific	35.0	34.7	34.3	35.1	34.8	35.4	35.2	35.2	36.1	35.4	36.0	35.9	35.9	37.0	36.2
Europe	14.8	15.0	15.5	14.9	15.1	14.7	15.2	15.6	15.1	15.2	14.7	15.3	15.7	15.2	15.2
FSU	4.5	4.6	4.9	4.8	4.7	4.7	4.8	5.0	5.0	4.9	4.8	4.8	5.1	5.0	4.9
Middle East	8.2	8.5	8.8	8.2	8.4	8.2	8.6	8.9	8.3	8.5	8.2	8.6	8.9	8.3	8.5
World	98.5	98.8	99.9	99.4	99.2	98.7	100.0	101.4	101.2	100.3	99.8	101.6	102.9	102.7	101.7
Annual Chg (%)	2.0	0.7	1.5	0.7	1.2	0.3	1.2	1.5	1.8	1.2	1.1	1.5	1.5	1.5	1.4
Annual Chg (mb/d)	1.9	0.7	1.5	0.7	1.2	0.2	1.2	1.5	1.8	1.2	1.1	1.5	1.5	1.5	1.4
Changes from last OMR (mb/d)	0.0	0.0	0.0	0.0	0.0	-0.4	-0.3	0.2	0.1	-0.1					

* Including biofuels

As for 2020, oil demand is expected to accelerate to 1.4 mb/d. Non-OECD countries will be the main drivers (+880 kb/d y-o-y), although the OECD will also contribute a significant 520 kb/d, helped by petrochemical cracker plant additions in the US and higher economic growth. On a fuel-by-fuel basis, diesel/gasoil will see solid expansion, as new rules implemented by the International Maritime

Organisation (IMO) force ship operators to switch away from high sulphur fuel oil, the use of which will decline significantly (See *IMO rules to boost gasoil demand from 4Q19 onwards*).

Global Demand by Product

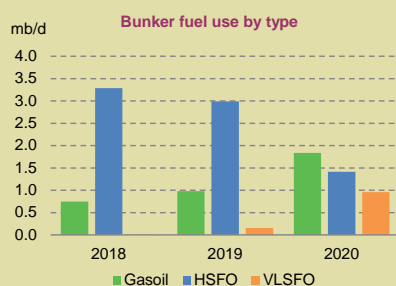
(thousand barrels per day)

	Demand			Annual Chg (kb/d)		Annual Chg (%)	
	3Q18	4Q18	1Q19	4Q18	1Q19	4Q18	1Q19
LPG & Ethane	12,107	12,442	13,013	323	155	2.7	1.2
Naphtha	6,197	6,334	6,461	-184	0	-2.8	0.0
Motor Gasoline	26,669	26,306	25,566	395	-24	1.5	-0.1
Jet Fuel & Kerosene	8,014	7,725	7,934	75	158	1.0	2.0
Gas/Diesel Oil	28,343	28,892	27,924	254	-84	0.9	-0.3
Residual Fuel Oil	7,017	6,758	6,853	-167	-114	-2.4	-1.6
Other Products	11,547	10,965	10,995	51	182	0.5	1.7
Total Products	99,895	99,421	98,745	746	273	0.8	0.3

IMO rules to boost gasoil demand from 4Q19 onwards

New regulations on sulphur in bunker fuel implemented by the IMO at the start of 2020 are likely to boost gasoil demand from the end of 2019 onwards, as shippers begin to restrict heavy fuel oil use in preparation for the switch. In these forecasts, we incorporated the switch expected within the bunker pool in 2020. We start the switch from high sulphur fuel oil (HSFO) to marine gasoil (MGO) and very low sulphur fuel oil (VLSFO) in 4Q19. Note that, in this *Report*, MGO is included in gasoil and VLSFO in fuel oil.

Our overall outlook, and the rationale behind our forecasts, remains broadly unchanged from that published in March in *Oil 2019 – Analysis and Forecast to 2024* (see *Special Feature – IMO 2020: Calm after the storm*). In the OECD, where Emission Control Areas (ECA) limiting sulphur emissions in bunker fuel already exist in many countries, we expect around 30% of HSFO usage to switch to gasoil in 4Q19, increasing to 40% in 2020. HSFO consumption in 4Q19 is likely to be responsible for a little under two-thirds of total bunker fuel demand globally. However, demand will likely fall precipitously in 2020, more so in the OECD due to gasoil and VLSFO fuel availability superior to that in non-OECD countries.



Altogether, we expect gasoil demand in the marine sector to rise around 200 kb/d y-o-y in 2019 and 900 kb/d in 2020. HSFO consumption will decline 300 kb/d y-o-y in 2019 and by a more significant 1.6 mb/d in 2020. Finally, VLSFO demand will increase from near zero in 2018 to 150 kb/d in 2019 and 1 mb/d in 2020.

Some of the trends we highlighted in *Oil 2019 – Analysis and Forecast to 2024* remain unchanged: gasoil prices are likely to increase, in turn slowing oil demand growth from onshore gasoil and diesel users, while overall bunker fuel demand will barely grow. Some vessels will be non-compliant with the IMO rules due to lack of fuel availability.

Fundamentals

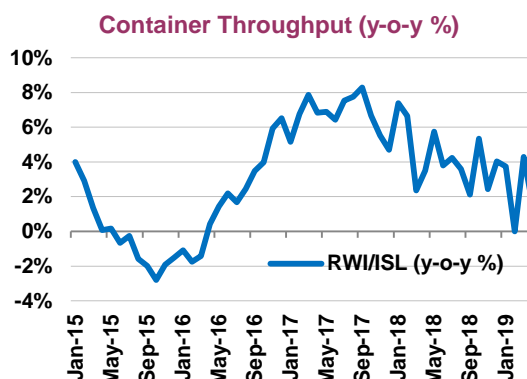
Global economic activity continues to show signs of weakness in 2019 and trade tensions remain at the centre of market concerns. Tariffs introduced in 2018 are starting to impact business activity and most indices point to a significant slowdown in trade in recent months. This is even before proposed new tariffs are implemented.

In this *Report*, we have updated our macroeconomic forecasts with the latest OECD economic outlook, released in May, which is slightly less optimistic than the projections used in last month's *Report*. According to the OECD, global growth is set to slow to 3.2% in 2019 before rebounding to 3.4% in 2020. Rising trade tensions are the main reason for the mediocre growth seen in the near term and are the

main risk to the forecast. Countries with high exposure to trade or manufacturing have been particularly impacted. Some are starting to respond to the ongoing slowdown, however, and stimulus packages are likely to support growth in the short term. In addition, the major central banks have stopped or slowed interest rate increases, which should support growth in 2H19 and 2020.

Economic growth in OECD countries is likely to remain relatively weak. The OECD forecasts European GDP growth of 1.25% in 2019, accelerating slightly in 2020; Japanese growth is projected at 0.70% in 2019 and 2020; and US growth slows to 2.75% in 2019 and 2.25% in 2020, as the support from tax cuts fades. Non-OECD countries will do better, partly because the likelihood of higher US interest rates and thus a stronger dollar, recedes. In the OECD's outlook, Chinese GDP growth slows to 6% by 2020, supported by recent stimulus measures and looser monetary policies. Indian growth accelerates to 7.25% in 2019 and 7.50% in 2020; and the troubled Brazilian economy gradually recovers, achieving growth of 2.25% in 2020.

Our oil price assumption for 2019, based on the forward curve, has been revised down to \$63.7/bbl compared to \$68.2/bbl used in our previous *Report*. Lower oil prices are now a supportive factor for demand in both 2H19 (in particular during the summer) and in 2020. For the extension of the forecast to 2020 in this *Report*, we have updated our analysis of petrochemical projects.



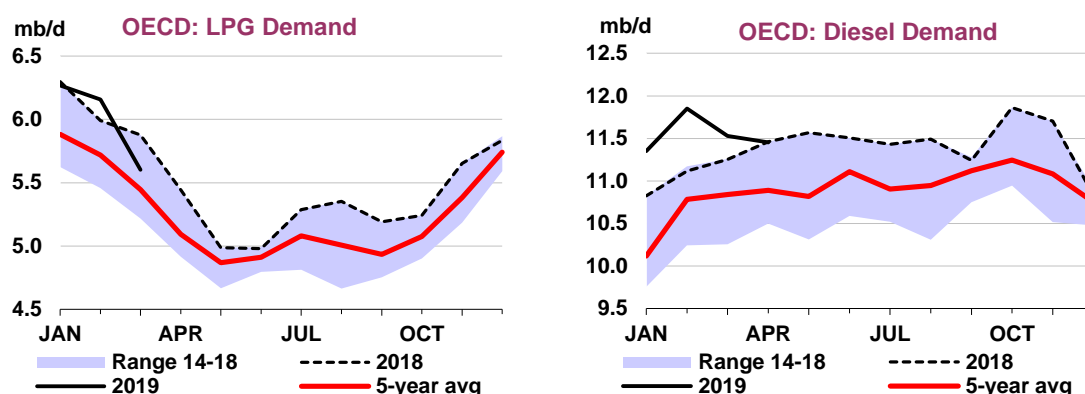
Trade tensions could reduce oil demand growth

The OECD economic outlook, our base case for this *Report*, assumes that the tariffs imposed by the US and China in 2018 are maintained, but does not incorporate additional measures announced by the US in May or other possible measures, as trade negotiations between the two countries are ongoing. If the US maintains the increase in tariffs decided in May and China keeps its retaliatory measures, the economic outlook could be lower. On the other hand, a successful outcome in negotiations could result in the reversal of tariffs imposed in 2018 and thus an economic upside. We estimate the impact of these various scenarios on global oil demand growth at up to -350 kb/d one/two years after the measures.

- Announced 2018 tariffs are included in the OECD's base forecasts and reduce total GDP in the US and China by 0.2-0.3% versus a business-as-usual scenario by 2021 and world trade by 0.4%. Using a GDP elasticity of 0.7 for China and 0.35 for the US, this reduces oil demand by only 35 kb/d. The new tariffs announced in May further reduce US and Chinese GDP by 0.2-0.3% by 2021. The cumulative impact on oil demand would double to close to 70 kb/d.
- If the US and China impose 25% tariffs on all remaining bilateral trade Chinese GDP would be 0.8% lower than under the baseline in 2021 and US GDP 0.6% lower. Global trade would be 1% below the baseline in 2021. Under this scenario, we estimate that total oil demand would be 120 kb/d lower than under our current base case.
- Finally, rising uncertainty about trade policies could impact investment and raise the cost of capital, reducing global GDP growth by 0.7% point below baseline by 2021 and global trade by 1.5%. Assuming a world GDP elasticity of 0.5, this would reduce world oil demand by 350 kb/d compared to our base case.

OECD

OECD oil demand fell in 1Q19 by a significant 600 kb/d y-o-y, the largest quarterly decrease since 2014. In this *Report*, we have revised down our 1Q19 demand assessment by 300 kb/d for 1Q19 following the receipt of revised data for the US and Canada (affecting LPG and gasoline particularly). Petrochemical feedstocks, the most dynamic part of the barrel, disappointed with LPG use down 50 kb/d y-o-y and naphtha by 100 kb/d. Several industry associations pointed to slower demand growth for petrochemical feedstocks and greater competition from non-OECD countries.



OECD Demand based on Adjusted Preliminary Submissions - April 2019

	(million barrels per day)													
	Gasoline		Jet/Kerosene		Diesel		Other Gasoil		RFO		Other		Total Products	
	mb/d	% pa	mb/d	% pa	mb/d	% pa	mb/d	% pa	mb/d	% pa	mb/d	% pa	mb/d	% pa
OECD Americas*	11.29	3.8	2.04	5.7	4.84	-1.6	0.20	-50.9	0.67	-7.6	6.26	5.3	25.30	2.0
US50	9.45	2.9	1.74	6.2	3.65	-9.0	0.14	-1.4	0.32	-21.1	4.88	7.2	20.19	1.2
Canada	0.79	-0.6	0.16	1.4	0.54	95.3	0.00	-98.2	0.08	7.1	0.73	-1.6	2.30	2.0
Mexico	0.91	19.1	0.10	4.0	0.42	3.1	0.04	18.3	0.19	14.5	0.54	1.0	2.20	9.9
OECD Europe	2.03	2.3	1.54	3.6	5.12	0.3	1.48	11.4	0.89	-0.4	3.47	-0.5	14.53	1.7
Germany	0.51	2.3	0.22	4.0	0.73	-3.9	0.38	15.1	0.08	2.2	0.52	-2.8	2.43	1.1
United Kingdom	0.28	-3.4	0.36	-0.1	0.53	-5.2	0.15	-1.6	0.03	7.7	0.31	1.5	1.65	-2.1
France	0.21	8.9	0.18	9.9	0.71	0.0	0.22	3.7	0.05	7.1	0.36	-4.3	1.73	1.7
Italy	0.17	2.2	0.12	4.2	0.50	3.4	0.07	-7.3	0.08	-3.5	0.35	-1.3	1.28	0.9
Spain	0.12	4.9	0.15	3.3	0.50	3.3	0.15	-3.7	0.16	-3.8	0.27	-2.8	1.34	0.5
OECD Asia & Oceania	1.53	2.5	0.85	9.1	1.50	3.8	0.48	2.8	0.50	-5.1	2.79	-8.5	7.64	-1.4
Japan	0.85	0.4	0.43	10.0	0.46	3.0	0.32	3.7	0.26	7.7	1.26	-8.6	3.57	-0.9
Korea	0.24	9.5	0.20	14.0	0.45	13.7	0.10	-2.7	0.20	-18.4	1.27	-10.2	2.45	-3.6
Australia	0.32	3.4	0.16	1.7	0.52	-2.6	0.00	0.0	0.02	-4.5	0.18	1.3	1.21	0.2
OECD Total	14.85	3.4	4.43	5.6	11.45	-0.1	2.15	-1.9	2.07	-4.0	12.52	0.3	47.47	1.3

* Including US territories

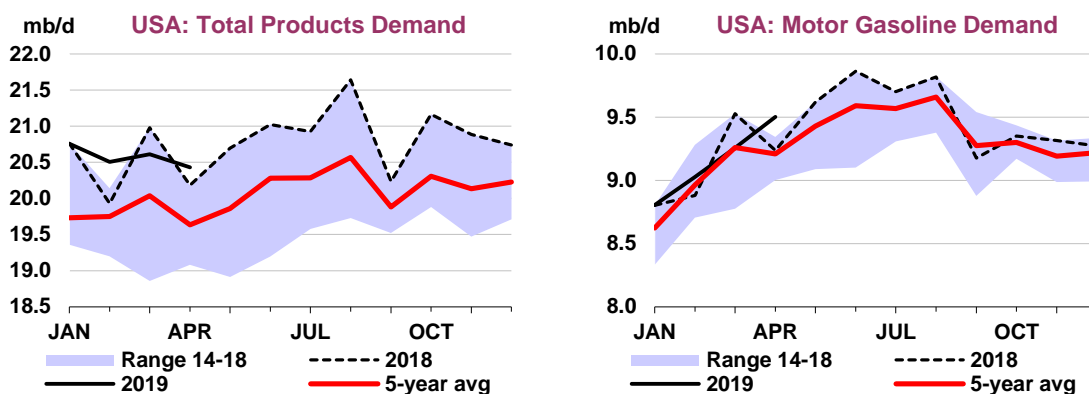
Poor weather in the US undermined gasoline demand, which fell by 120 kb/d y-o-y across the OECD. There is also little doubt that a warm start of the year in the northern hemisphere, with heating degree-days down 3% y-o-y in 1Q19 across the OECD, impacted demand for heating fuels.

This year's oil demand growth rate in the OECD, at 110 kb/d, is likely to be the slowest in five years, as growth in petrochemicals, diesel and jet fuel is largely offset by consumption declines for fuel oil, heating oil and other products. We expect growth to accelerate to 520 kb/d in 2020, helped by capacity additions in the petrochemical industry and a more robust diesel and gasoil outlook.

OECD Americas

Oil demand in the OECD Americas fell by 690 kb/d y-o-y in March as a result of much lower gasoline consumption and with falling heating oil deliveries. It is likely that the significant floods in the US Midwest from March onwards reduced personal travel. Indeed, US Department of Transportation data show a drop of 1.1% y-o-y in vehicle miles travelled (VMT) in the North Central region in March, while US VMT rose by 0.3% y-o-y on average. Overall, during 1Q19, consumption in the Americas declined by 130 kb/d. This is down from last month's growth forecast and represents by far the biggest downgrade to our OECD figures in this *Report*.

We have revised down oil consumption in the Americas by 270 kb/d in 1Q19 on the back of lower LPG deliveries in both the US and Canada in March. While LPG increased y-o-y, this is the lowest quarterly growth seen since the end of 2017. The American Chemistry Council noted in a June release some "headwinds" for the US chemical industry. "With slowing growth prospects across much of the globe and rising trade tensions, chemical exports are not performing as well as expected a year ago. Manufacturing also appears to be slowing," it said.



US oil demand fell 370 kb/d y-o-y in March due to lower gasoline deliveries, before rebounding by 250 kb/d in April, also on the back of gasoline. Gasoil/diesel consumption fell unexpectedly in April as the weather was warmer than usual and as the substantial floods in the Midwest hampered agriculture. Heating degree-days were down 29% y-o-y. The US Department of Agriculture reported in early May that only 23% of the available corn and 6% of the available soybeans acreage were planted, respectively. LPG and jet fuel demand grew by 120 kb/d and 100 kb/d, respectively.

Canada's oil consumption fell significantly by 140 kb/d y-o-y in March, the fifth consecutive monthly decline, with decreases registered in gasoline (90 kb/d), LPG (60 kb/d) and naphtha (50 kb/d). LPG and naphtha demand, in particular, was much lower than anticipated.

We forecast oil demand in the Americas to recover in 2Q19 and during the rest of 2019 on the back of growth in the petrochemical industry and with higher gasoline consumption. Overall, for 2019, we expect growth of 180 kb/d, the highest of all OECD regions, even if it is expected to be lower than in 2018. In 2020, growth should accelerate to 360 kb/d thanks to petrochemical capacity additions, which will boost LPG/ethane use by 250 kb/d. Gasoil/diesel demand will rise a significant 160 kb/d in line with the International Maritime Organisation's new sulphur rules, whereas fuel oil demand will drop 80 kb/d. US oil demand is set to increase by 185 kb/d in 2019, after growth of 495 kb/d in 2018. US oil demand growth is projected at 350 kb/d in 2020, of which 230 kb/d would be ethane used in the petrochemical sector.

Solid demand growth from petrochemical projects

To better understand demand in the petrochemical sector in 2020, we have surveyed new petrochemical projects due to start up and we estimated their feedstock consumption. We have selected the 15 projects most likely to start operations by the end of 2020. They are located in the US, China, Korea and Thailand. If they come on stream as scheduled, LPG and ethane demand could increase by a combined 395 kb/d and naphtha demand by 110 kb/d by the end of 2020. The results presented in this *Report* represent a slight downward revision versus the data we showed in *Oil 2019 – Analysis and Forecast to 2024*, as some projects have been delayed and others not included because they remain uncertain.

Company	Country	Location	Capacity (thousand tons/year)	Feedstock	Scheduled year
Indorama Ventures Olefins LLC	US	Westlake, Louisiana	420	Ethane/Propane	2019
Sasol	US	Lake Charles, Louisiana	1500	Ethane	2019
Shintech Inc.	US	Plaquemine, Louisiana	500	Ethane	2019
Lotte Chemical, Axiall Corporation	US	Lake Charles, Louisiana	1000	Ethane	2019
DowDupont	US	Orange, Texas	500	Ethane	2019
Formosa Plastics	US	Point Comfort, Texas	1250	Ethane	2020
Zhejiang Satellite Energy Co. PDH Phase II	China	Pinghu, Zhejiang	450	Propane (PDH)	2019
Hengli Petrochemicals	China	Dalian, Liaoning	1500	Naphtha	2019
SP Chemicals	China	Taixing, Jiangsu	650	Ethane/Propane/Butane	2019
Dongguan Juzhengyuan	China	Dongguan, Guangdong	900	Propane (PDH)	2019
Oriental Energy	China	Caofeidian, Hebei	660	Propane (PDH)	2019
Rongsheng Petrochemical Co., Ltd.	China	Zhoushan, Zhejiang	600	Propane (PDH)	2020
LG Chemicals (Expansion)	Korea	Daesan, Chungcheong	230	Naphtha	2019
Hanwha Total Petrochemicals	Korea	Daesan, Chungcheong	350	Propane	2019
PTT Global Chemical	Thailand	Map Ta Phut, Rayong	500	LPG/Naphtha	2020

Although these projects are reported as “on track” at the time of research, unforeseen oil market circumstances and uncertainties for petrochemical demand may lead to delays or cancellation. We will continue to monitor the progress of these plants and adjust our oil demand numbers accordingly.

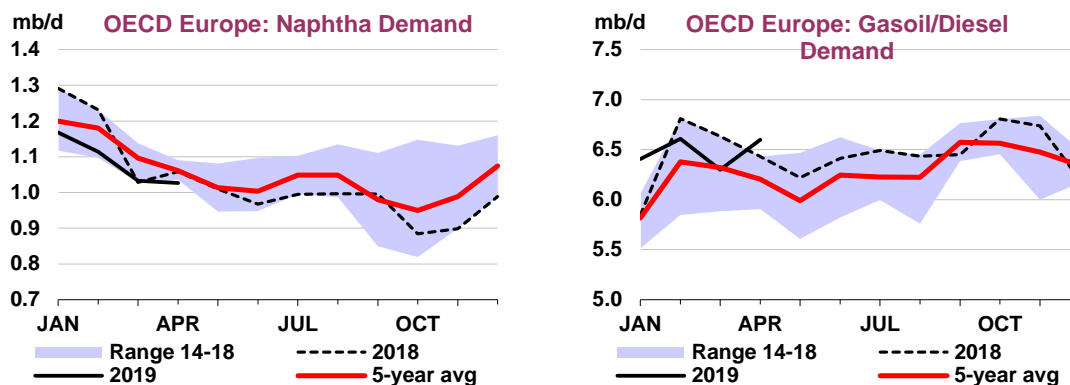
OECD Europe

European oil demand fell 500 kb/d y-o-y in March, with declines registered in gasoil/diesel (340 kb/d), LPG (180 kb/d) and fuel oil (10 kb/d), and modest increases in other oil products. March capped a difficult 1Q19 for the continent, as consumption declined 160 kb/d overall. It means that European demand has effectively been falling for a year now, with the declines accelerating at the end of 2018 and into 2019. Petrochemical feedstocks have struggled more than other product categories.

Europe's LPG and naphtha demand decreased 120 kb/d and 80 kb/d y-o-y respectively in 1Q19. In the case of naphtha, this follows several negative growth quarters while LPG demand growth has been negative or moderately positive in the last year. The European Chemical Industry Council said at the beginning of 2019 that petrochemical output had been flat in the first 10 months of 2018, despite steady growth in sales. Chemical imports were up around 7% during the January-September period, reflecting higher competition from China. Europe's largest petrochemical company BASF said that its European sales had declined 4% y-o-y in 1Q19 with income from operations down more than a third to 819 million euros. Another petrochemical company, Ineos, reported lower revenue during 1Q19.

Gasoil/diesel demand rose modestly by 20 kb/d y-o-y during 1Q19. This came on the heels of consumption declines during most of 2018 and happened despite a warm winter in Europe. We estimate that European heating degree-days were down 10% in 1Q19 y-o-y and at their lowest level since 1Q14. While growth from the passenger vehicle segment has slowed down noticeably since the diesel emissions scandal of 2015, demand from trucks and the industrial sector is still dynamic. Combined jet fuel and kerosene consumption was up 10 kb/d in 1Q19 and gasoline also increased by 10 kb/d.

German oil demand fell 120 kb/d y-o-y in March, weighed by gasoil/diesel (-100 kb/d) and fuel oil (-10 kb/d). Overall, in 1Q19, consumption increased 40 kb/d, the first quarterly increase since the end of 2017. It was largely driven by higher gasoil/diesel consumption following the return to normal of water levels on the Rhine at the end of last year, which enabled deliveries by barge from the Amsterdam-Rotterdam-Antwerp refining hub. Navigation difficulties on the Rhine may have resumed since then.

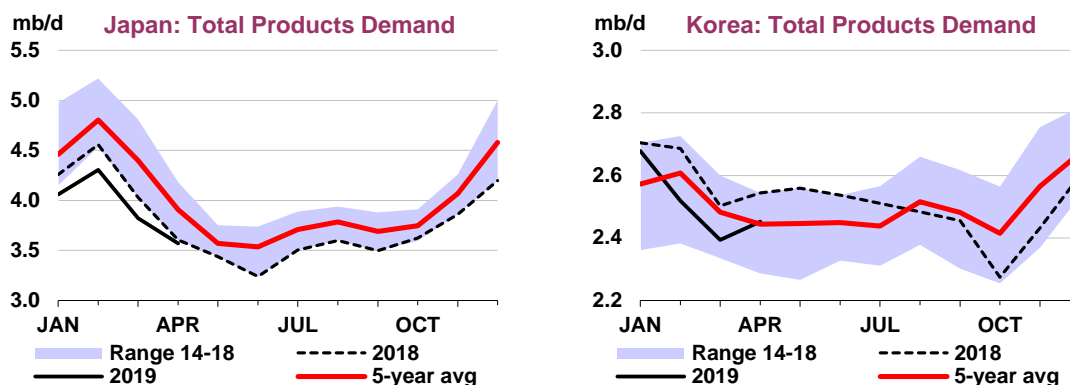


Oil demand in **France** rose 30 kb/d y-o-y in April on higher gasoline and jet fuel deliveries. Gasoline demand y-o-y growth has increased every quarter in the last four years and now stands 70 kb/d, or 53%, higher than at the beginning of 2015, before the French government started reducing the tax differential between diesel and gasoline at the pump. Gasoil/diesel consumption, meanwhile, is more or less unchanged.

We expect European oil demand to pick up during the rest of the year, helped by lower oil prices and higher economic activity. Gasoil/diesel will show most of the growth, increasing by 70 kb/d in 2Q19, 50 kb/d in 3Q19 and a significant 320 kb/d in 4Q19 as shipping operators begin to switch away from heavy fuel oil in preparation for the International Maritime Organisation's new sulphur rules. In 2020, we forecast Europe's oil demand growth to be 70 kb/d, in line with that registered in 2019.

OECD Asia Oceania

Oil demand in Asia Oceania fell 350 kb/d y-o-y in March, the 10th consecutive monthly decrease. The decline was broadly in line with those seen in January and February and during the second half of 2018. In 1Q19, large decreases were seen in fuel oil (140 kb/d), other products (120 kb/d), jet/kerosene (40 kb/d) and gasoline (30 kb/d). Heating degree-days decreased 7% y-o-y during 1Q19, therefore demand for heating fuels such as kerosene and gasoil was reduced.



Japan's oil demand fell 210 kb/d y-o-y in March and was 60 kb/d below our forecast. There were declines in all product categories, except naphtha. Demand has been particularly weak in 1Q19, penalised by warmer temperatures and slowing economic activity.

Korean demand decreased 90 kb/d y-o-y in April, 60 kb/d below our forecast. Naphtha and fuel oil consumption fell unexpectedly. **Australian** oil demand was down 30 kb/d y-o-y in March and was little changed overall in 1Q19.

We expect demand in the region to fall for the third year in a row, by 130 kb/d, in 2019. Declines are likely to ease in 2Q19 and 3Q19. Other products will show the largest fall, followed by fuel oil and gasoline. In 2020, we forecast growth in demand of 80 kb/d, boosted by higher economic activity in the region.

Non-OECD

Non-OECD demand continues to be relatively robust even though growth is clearly slowing in the two main consuming countries: China and India. Total non-OECD growth slowed to 850 kb/d in 1Q19 following 1.1 mb/d in 4Q18. The slowdown occurred mainly in Asia. Chinese and Indian oil demand growth looked to be weakening in 1Q19 and in April.

After a poor start to the year, we expect oil demand growth to pick up in 2H19 in non-OECD countries, supported by macroeconomic policies and lower oil prices y-o-y. Non-OECD countries will remain the main engine of global demand in 2020, with growth expected to be 880 kb/d y-o-y.

Non-OECD: Demand by Region

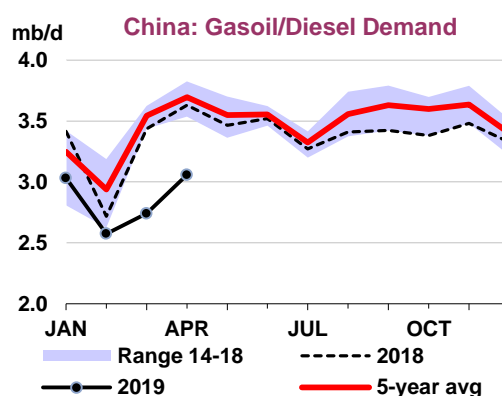
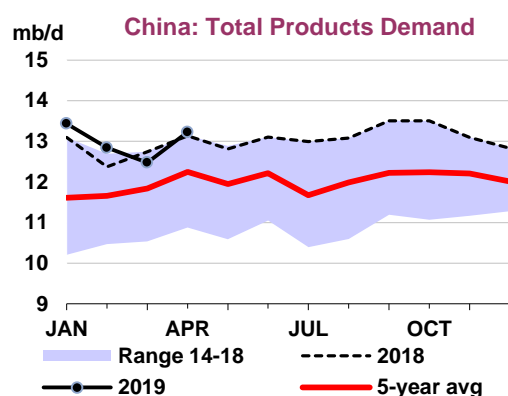
(thousand barrels per day)

(thousand barrels per day)

	Demand		Annual Chg (kb/d)		Annual Chg (%)		
	3Q18	4Q18	1Q19	4Q18	1Q19	4Q18	1Q19
Africa	4,159	4,307	4,406	39	70	0.9	1.6
Asia	26,685	27,102	27,158	788	624	3.0	2.4
FSU	4,909	4,833	4,664	233	180	5.1	4.0
Latin America	6,459	6,415	6,273	-25	-53	-0.4	-0.8
Middle East	8,755	8,190	8,171	-28	-27	-0.3	-0.3
Non-OECD Europe	771	795	784	40	53	5.3	7.3
Total Products	51,738	51,642	51,457	1,047	848	2.1	1.7

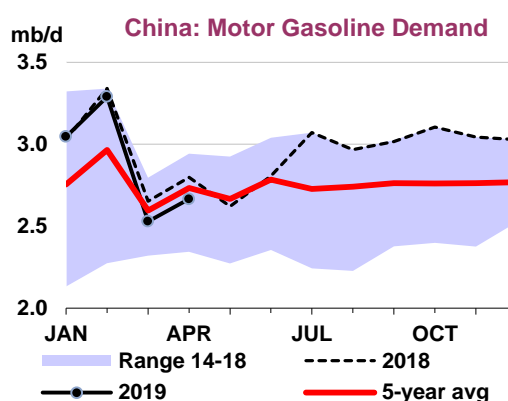
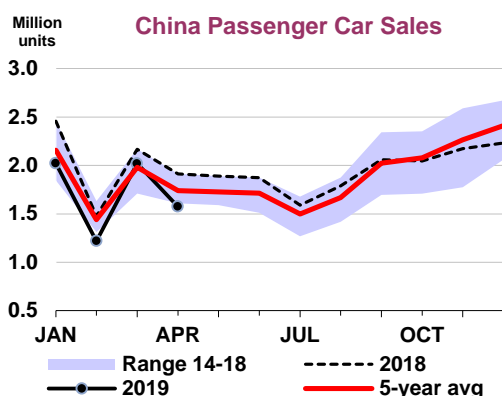
China

Chinese data for April showed that demand grew by only 85 kb/d, following an increase of 180 kb/d y-o-y in 1Q19. Main fuel demand appears weak since the start of the year. In particular, gasoil demand fell by 410 kb/d in 1Q19 and a further 570 kb/d in April.



The recent drop in gasoil demand could be explained by misreporting of production. While refinery runs rose steadily in 2019, increasing by 810 kb/d y-o-y in the first four months, gasoil output is reported to have fallen by 285 kb/d during the same period. In the meantime, other products production (calculated as the difference between runs and identified products production) rose by 610 kb/d y-o-y on average in January-April 2019. It appears therefore likely that part of the gasoil production has not been fully reported and ended up in 'other products'.

Passenger car sales dropped by an average 15.9% y-o-y in January-April. Chinese car sales have been weak since last summer and in May, total vehicle sales fell by 16.4%. The main surprise came from electric vehicles. While in April 'new energy vehicle' (NEV) sales rose by 18% y-o-y, the rate fell to just 1.8% in May. Lower electric vehicle sales could support gasoline and gasoil demand in the medium term. Gasoline apparent demand has also weakened recently, dropping by 70 kb/d in January-April 2019 after a small growth of 30 kb/d in 2018.



China's domestic air transport growth has slowed considerably in recent months. After y-o-y growth of 14.5% in January and 11.4% in February, China's domestic revenue passenger kilometres (RPK) slowed to 2.8% in March and 3.4% in April. The growth in jet/kerosene demand also slowed to 60 kb/d in the first four months of 2019 compared with 90 kb/d on average in 2018.

After growth of 450 kb/d in 2018, we expect similar growth in 2019 and a slowdown to 270 kb/d in 2020. In the short term, Chinese oil demand should be supported by lower oil prices and the stimulus package put in place by the government.

China: Demand by Product

(thousand barrels per day)

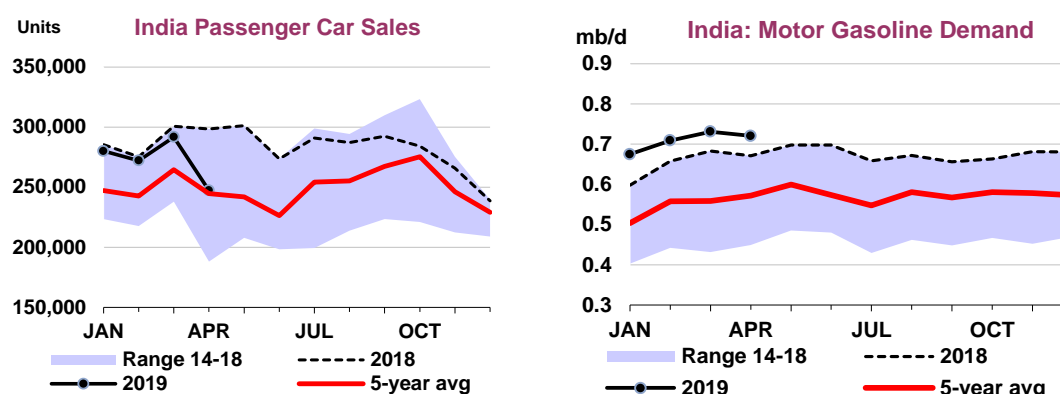
	Demand			Annual Chg (kb/d)		Annual Chg (%)	
	2018	2019	2020	2019	2020	2019	2020
LPG & Ethane	1,616	1,691	1,793	75	101	4.7	6.0
Naphtha	1,243	1,314	1,354	71	40	5.7	3.0
Motor Gasoline	2,954	3,013	3,090	60	77	2.0	2.5
Jet Fuel & Kerosene	800	861	919	61	57	7.6	6.7
Gas/Diesel Oil	3,377	3,297	3,367	-79	70	-2.4	2.1
Residual Fuel Oil	412	389	323	-24	-66	-5.7	-16.9
Other Products	2,624	2,911	2,901	287	-10	10.9	-0.3
Total Products	13,025	13,477	13,746	451	269	3.5	2.0

India

After growth of 225 kb/d y-o-y in 1Q19, Indian oil demand growth fell to 25 kb/d in April. Naphtha and jet/kerosene demand declined by 30 kb/d and 25 kb/d y-o-y respectively and LPG demand growth

slowed to 15 kb/d. In April, both jet A1 and other kerosene posted declines: 11 kb/d for jet A1 and 14 kb/d for other kerosene. Gasoline and gasoil demand grew by 50 kb/d and 35 kb/d y-o-y respectively in April, a slight slowdown compared to growth of 60 kb/d in 1Q19. The drop in jet kerosene demand resulted from a dramatic slowdown in air transport. In April, RPK dropped by 0.5% y-o-y (the first contraction since January 2014) while it had averaged an increase close to 20% over the past five years. Rising airfares and the collapse of Jet Airways explain the sharp slowdown.

Gasoline demand growth slowed to 50 kb/d in April. There has been no pick up in passenger car sales in 2019. On the contrary, sales contracted 17.1% in April, the worst in eight years. Sales of scooters and motorcycles also declined sharply, by 26% and 16%, respectively. A recent cash crunch in the shadow banking sector together with tightening insurance regulations may explain part of the overall drop in demand.



LPG/ethane demand rose by only 15 kb/d y-o-y in April, after gains of 95 kb/d on average in 1Q19. LPG has recently been growing very fast, in response to a government policy to promote its use in the domestic sector (largely at the expense of kerosene).

India: Demand by Product

(thousand barrels per day)

	Demand			Annual Chg (kb/d)		Annual Chg (%)	
	2018	2019	2020	2019	2020	2019	2020
LPG & Ethane	781	831	867	50	36	6.4	4.4
Naphtha	315	327	342	11	15	3.6	4.6
Motor Gasoline	668	709	745	41	36	6.1	5.1
Jet Fuel & Kerosene	246	257	275	11	18	4.5	7.0
Gas/Diesel Oil	1,676	1,749	1,826	73	78	4.3	4.4
Residual Fuel Oil	143	139	132	-4	-7	-2.8	-5.3
Other Products	939	970	1,021	31	51	3.3	5.3
Total Products	4,769	4,982	5,209	213	227	4.5	4.6

We expect some rebound in demand in 2H19, supported by lower prices and improving economic activity. Growth should reach 210 kb/d in 2019 and 230 kb/d in 2020.

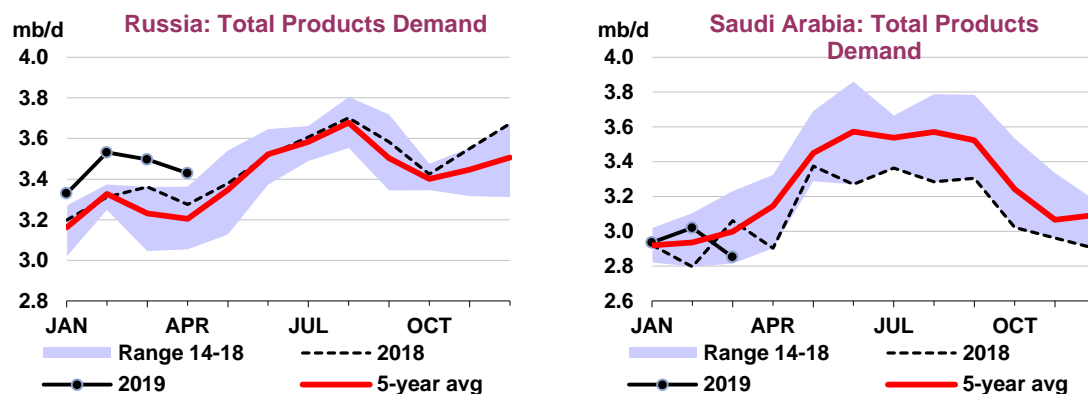
Other Non-OECD

Iraq's oil demand slowed in March, increasing by 30 kb/d, led by gasoil. Crude oil direct use declined to 45 kb/d in March from 105 kb/d in February, a level not seen since end-2017. Fuel oil use remained steady, at 210 kb/d.

Brazilian oil demand rose by 30 kb/d y-o-y in April, with gasoil up by 15 kb/d and gasoline increasing by 30 kb/d. Domestic air traffic rose by only 0.6% y-o-y in April, after growth of 3.2% in March. Overall,

demand remained flat in 2018 but is expected to increase by 50 kb/d in 2019 and 25 kb/d in 2020, reflecting an improved economic environment over the forecast.

Saudi Arabian oil demand dropped by 210 kb/d y-o-y in March, reversing the gains established in January-February. The largest drop was for 'other products', which declined 170 kb/d. Direct crude use, which is included in other product demand, was reported at 270 kb/d in March, a reduction of 80 kb/d y-o-y. Saudi oil demand declined by 175 kb/d in 2018. With a more favourable economic environment and the boost from government spending, it is likely to start growing again in 2019, by 95 kb/d. In 2020, we expect higher fuel oil demand in Saudi Arabia after the IMO 2020 switch. This will be more than offset by a reduction in direct crude use.



Russia continues to post strong demand growth, estimated at 155 kb/d in April, supported by higher fuel oil deliveries. Jet fuel demand increased by 10 kb/d on strong growth in air transport. Russian domestic RPK has shown the world's fastest growth in recent months, increasing by 14.2% y-o-y in March and 10.4% in April. Russian oil demand expanded by 145 kb/d in 2018 and growth is forecast at 100 kb/d in 2019 and 40 kb/d in 2020.

Pakistan's oil demand declined by 70 kb/d in March, as gasoil and fuel oil demand dropped by 40 kb/d and 35 kb/d, respectively. The use of fuel oil in the power sector could resume as Pakistan State Oil issued in April its first import tender for 2019 in preparation for increasing summer demand.

Argentina's oil demand declined by 30 kb/d y-o-y in April. The country's economic difficulties should result in a decline of 20 kb/d in 2019. We expect a small recovery in demand in 2020.

Non-OECD: Demand by Product

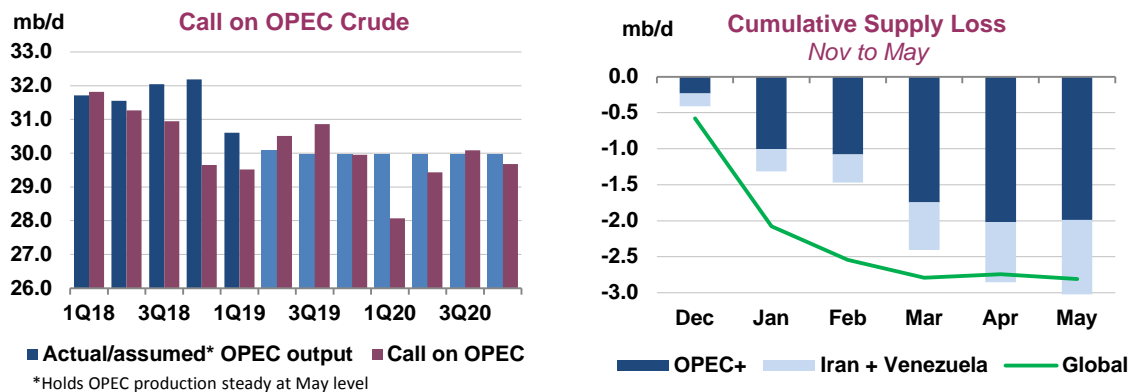
(thousand barrels per day)

	Demand			Annual Chg (kb/d)		Annual Chg (%)	
	3Q18	4Q18	1Q19	4Q18	1Q19	4Q18	1Q19
LPG & Ethane	6,830	6,866	7,009	153	207	2.3	3.0
Naphtha	2,925	3,072	3,063	155	103	5.3	3.5
Motor Gasoline	11,726	11,791	11,599	416	85	3.7	0.7
Jet Fuel & Kerosene	3,462	3,248	3,414	82	148	2.6	4.5
Gas/Diesel Oil	14,705	14,889	14,057	115	-201	0.8	-1.4
Residual Fuel Oil	4,880	4,709	4,826	-40	31	-0.8	0.7
Other Products	7,210	7,067	7,489	165	473	2.4	6.7
Total Products	51,738	51,642	51,457	1,047	848	2.1	1.7

SUPPLY

Summary

Stronger non-OPEC supply growth of 2.3 mb/d in 2020 – up from 1.9 mb/d this year – means the tightening of oil markets could prove short lived. The anticipated gains are such that even with higher demand growth versus 2019, the requirement for OPEC crude could drop to 29.3 mb/d in 2020, 650 kb/d below the group's production in May. In the near-term, global oil stock draws could be limited to 2Q19 and 3Q19, if OPEC output stays at around current levels.



It is not as if OPEC has been pumping flat out. OPEC, Russia and nine other non-OPEC countries (OPEC+) have more than delivered on their 1.2 mb/d supply cut in the hopes of reversing the substantial stock builds of 2018. Output from the OPEC+ countries during May was 530 kb/d below their 44.3 mb/d target, which delivered compliance of 145%.

The over-performance is mainly from Saudi Arabia and Russia. Saudi Arabia led OPEC's compliance rate to 133% while the fallout from the Druzhba pipeline contamination saw Russia's output fall by 120 kb/d. OPEC+ is due to review its agreement at a meeting scheduled for 25-26 June in Vienna. Saudi Arabia has signalled that the curbs should be prolonged to avoid a market share battle with the US or a repeat of oil's collapse of five years ago.

The 2 mb/d reduction in OPEC+ supply since November's high, along with a combined loss of more than 1 mb/d from Iran and Venezuela, has helped clear the supply overhang. It has also left the producers with roughly 3.5 mb/d of spare capacity, 3.2 mb/d of which is held in OPEC. This is a useful insurance should Iranian and Venezuelan supplies fall further or in case of supply disruptions elsewhere. Output in Nigeria and Libya remains vulnerable due to ongoing civil unrest.

During May, global oil supply edged down 100 kb/d to 99.5 mb/d, nearly 3 mb/d below a November peak. The month-on-month (m-o-m) loss - led by Canada, Iran, Russia and Saudi Arabia - was mostly offset by higher supply from Brazil, the US, Iraq and biofuels. As for OPEC, plunging Iranian production and lower Saudi and Nigerian output cut crude supply by 230 kb/d to just under 30 mb/d, a five-year low. Non-OPEC supply rose 130 kb/d to 64 mb/d. Compared to a year ago, global oil supply was 620 kb/d higher. Driven by the US, non-OPEC output was up 2.1 mb/d, while OPEC was down 1.5 mb/d.

While supply growth in the US is forecast to slow to 1.3 mb/d in 2020 from 1.7 mb/d this year, expansions in other non-OPEC countries are set to accelerate. Norway is expected to show growth of 290 kb/d after declining by 130 kb/d this year and Brazil is projected to ramp up by a further 330 kb/d following a 240 kb/d increase this year. Canada and Russia will also post gains assuming production restraints are lifted.

OPEC / Non-OPEC Output¹

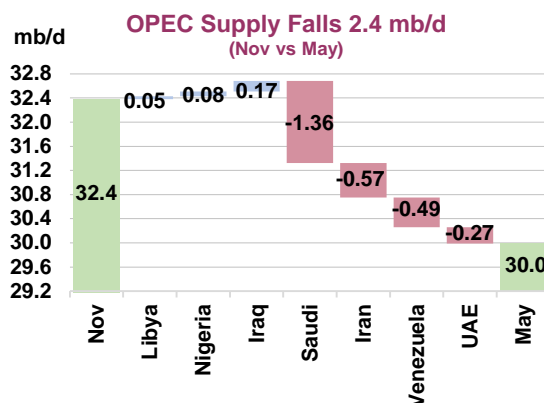
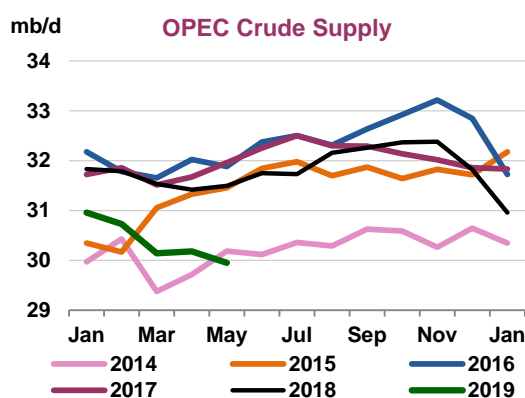
(million barrels per day)

	Apr 2019 Supply	May 2019 Supply	Supply Baseline ²	Agreed Cut	New Target	May Compliance	Sustainable Production Capacity ⁵	Spare Capacity vs May Supply ⁶
Algeria	1.02	1.03	1.06	0.032	1.03	84%	1.05	0.02
Angola	1.41	1.45	1.53	0.047	1.48	166%	1.50	0.05
Congo	0.36	0.34	0.33	0.010	0.32	-150%	0.35	0.01
Ecuador	0.53	0.53	0.52	0.016	0.51	-38%	0.54	0.01
Equatorial Guinea	0.11	0.10	0.13	0.004	0.12	675%	0.12	0.02
Gabon	0.20	0.20	0.19	0.006	0.18	-217%	0.20	0.00
Iraq	4.65	4.78	4.65	0.141	4.51	-90%	4.90	0.12
Kuwait	2.69	2.71	2.81	0.085	2.72	116%	2.93	0.22
Nigeria ³	1.75	1.69	1.65	0.053	1.60	-75%	1.79	0.10
Saudi Arabia	9.81	9.70	10.63	0.322	10.31	290%	12.02	2.32
UAE	3.05	3.05	3.17	0.096	3.07	123%	3.39	0.34
Total OPEC 11	25.58	25.58	26.66	0.812	25.85	133%		
Iran ⁴	2.61	2.40					3.85	-
Libya ⁴	1.16	1.16					1.10	-0.06
Venezuela ⁴	0.83	0.81					0.81	0.00
Total OPEC	30.18	29.95					34.55	3.21
Azerbaijan	0.68	0.78	0.80	0.020	0.78	100%		
Bahrain	0.21	0.21	0.22	0.005	0.21	120%		
Brunei	0.13	0.13	0.12	0.003	0.11	-393%		
Kazakhstan	1.70	1.77	2.03	0.040	1.99	637%		
Malaysia	0.68	0.71	0.70	0.015	0.68	-60%		
Mexico	1.92	1.91	1.99	0.040	1.95	195%		
Oman	0.98	0.98	1.00	0.025	0.98	105%		
Russia	11.57	11.44	11.75	0.230	11.52	132%		
Sudan	0.08	0.08	0.07	0.002	0.07	-219%		
South Sudan	0.16	0.14	0.12	0.003	0.12	-554%		
Total Non-OPEC	18.12	18.15	18.80	0.383	18.41	169%		

¹ OPEC figures are crude oil only, Non-OPEC figures are total oil supply (including NGLs).² Based on Oct-2018 production, except for Azerbaijan and Kuwait based on Sept-2018 and Kazakhstan Nov-2018. Non-OPEC supply baseline based on IEA estimates³ Nigeria supply baseline based on IEA estimates, which exclude Akpo and Agbami condensates.⁴ Iran, Libya, Venezuela exempt from cuts.⁵ Capacity that can be reached in 90 days and sustained for an extended period.⁶ Spare capacity excludes Iranian crude supply that is offline due to sanctions.

OPEC crude oil supply

OPEC crude output declined during May to the lowest level since 2014 as Iranian supply tumbled due to sanctions, Saudi output fell and Nigerian flows were disrupted by pipeline outages. At 29.95 mb/d, production was down 230 kb/d m-o-m and 1.5 mb/d lower than a year ago. Iraq showed no restraint during May, ramping up to its highest ever and leaving output 270 kb/d above its OPEC+ quota. By contrast, Saudi supply was 610 kb/d below its supply target.



OPEC crude production has fallen 2.4 mb/d since November when Saudi Arabia, the UAE and Iraq were pumping at or near record highs. Saudi Arabia has cut nearly 1.4 mb/d to help remove excess oil from

the market, while Iran and Venezuela have lost more than 1 mb/d between them because of sanctions. Iraq has added 170 kb/d. During May, compliance from OPEC members participating in supply cuts held steady at 133%. OPEC's effective spare capacity in May was 3.2 mb/d, with Saudi Arabia accounting for 2.3 mb/d, or 72%.

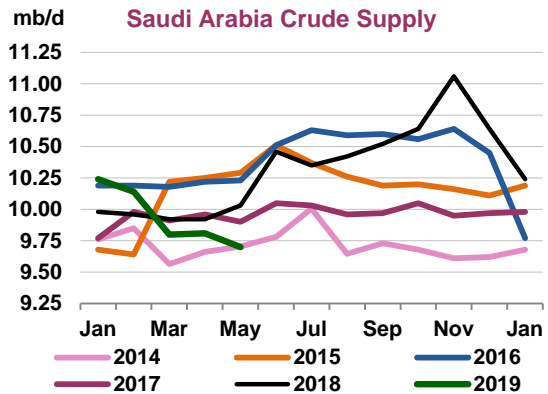
Although output during May sank to 9.7 mb/d, the lowest level since 2015, **Saudi Arabia** has pledged to meet customer requirements for additional crude. While production slipped 110 kb/d m-o-m, exports rose 280 kb/d to nearly 7.2 mb/d, according to *Kpler* data. Reduced domestic refinery throughput could have led to lower output, thus freeing up more crude for export.

Saudi Energy Minister Khalid al-Falih has said the kingdom would keep output below its supply target in June and July. "We of course want to drive inventories down," he was quoted as saying.

Saudi Aramco meanwhile raised the July price of flagship Arab Light for customers in Asia by \$0.60/bbl to a premium of \$2.70/bbl over the Oman/Dubai average. Elsewhere in the Gulf, supply from the **UAE** was unchanged m-o-m at 3.05 mb/d while production in **Kuwait** inched up to 2.71 mb/d.

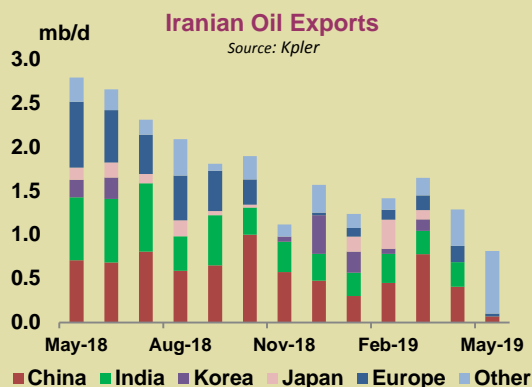
Output in **Iraq** climbed 130 kb/d in May as exports rose and domestic throughput edged higher. Record production of 4.78 mb/d, including the Kurdistan Regional Government (KRG), was up 310 kb/d on a year ago. As for exports, total shipments to world markets rose 150 kb/d to 3.98 mb/d. Exports from the Gulf were 3.4 mb/d in May, up 60 kb/d m-o-m. Oil sales from the north rose 90 kb/d to around 540 kb/d.

On the upstream front, Iraq has selected Hyundai Engineering & Construction Co to build a \$2.4 billion 5 mb/d water injection plant that is crucial to raising production capacity at its mature, southern oil fields. When finally approved, the project should be operational in four years.



Iran oil exports: not yet zero

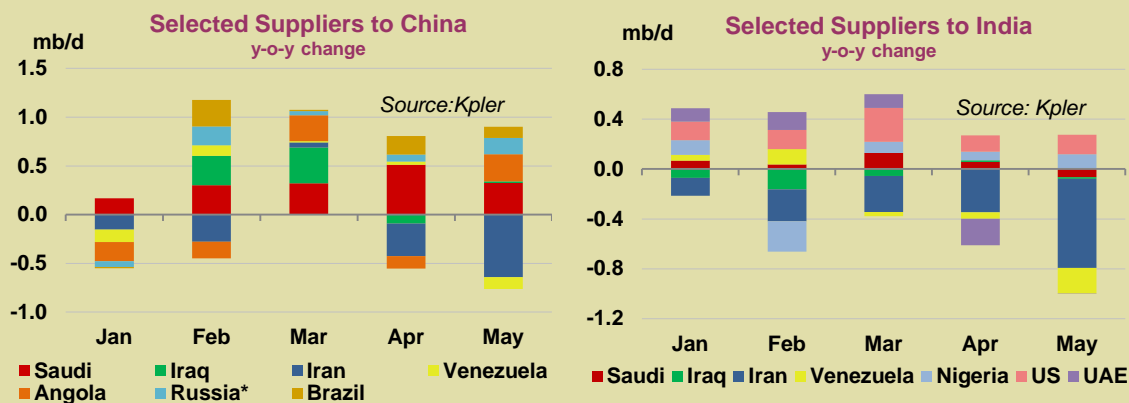
Crude oil production in Iran tumbled 210 kb/d in May to 2.4 mb/d, the lowest level since the late 1980s, after the US ended waivers to eight of Iran's main customers. Exports of oil fell more sharply, plunging 480 kb/d m-o-m to 810 kb/d. Condensates accounted for roughly 240 kb/d of the shipments. By contrast, Iran was exporting 2.6 mb/d on average in the year to May 2018, when Washington announced its exit from the JCPOA. The US is now seeking to eliminate Iran's exports.



Iran oil exports: not yet zero (continued)

Iran may also lower its condensate production after it fills up its onshore and floating storage. By the end of May, roughly 15 mb was stored on tankers, with much of that volume condensate. Iran's condensate and NGL production is currently estimated at 690 kb/d and 330 kb/d, respectively

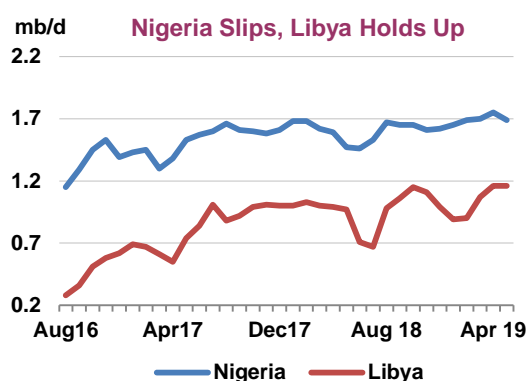
The final destination of Iran's oil exports is becoming increasingly difficult to track after the National Iranian Oil Co (NIOC) shut off the satellite tracking systems on its ships. Most of the barrels are expected to wind up in Asia, although it is still unclear where, and some oil is probably moving into storage tanks.



Of the eight jurisdictions awarded waivers from November until May, Turkey appears to have lifted 30 kb/d in May versus 190 kb/d in April. China, Iran's biggest buyer, shows liftings of just 70 kb/d in May compared to 410 kb/d the previous month. Buyers for other May volumes have yet to be identified. India, the second biggest customer, bought 280 kb/d in April, broadly steady on March, but half the volume versus last year.

It remains to be seen from where Iran's major buyers will find alternative supplies. NIOC's medium-heavy crudes are similar to grades available from Saudi Arabia, Iraq, Russia and the UAE. It is clear from the charts above that, so far this year, China has substantially increased liftings of Saudi grades and raised purchases from Iraq, Russia and Brazil, while loading significantly less Iranian oil compared to a year ago. India, too, has lifted much less Iranian oil and bought considerably more from the US.

In **Nigeria**, output declined by 60 kb/d to 1.69 mb/d after pipeline disruptions set back exports. Soon after *force majeure* was lifted on Bonny Light loadings following the restart of a major pipeline that had



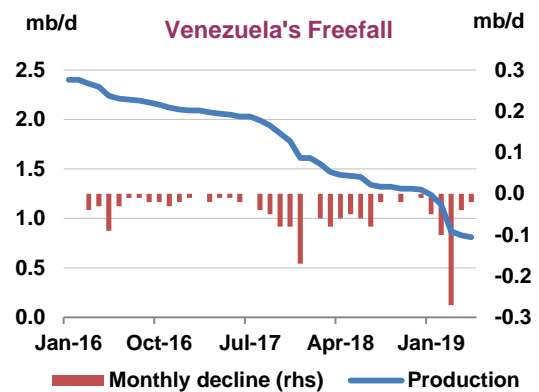
been sabotaged, the 240 kb/d Trans Forcados pipeline was shut down due to a fire. For much of the time between February 2016 and May 2017, attacks on the Forcados export system halted shipments.

Crude supply in **Libya** held steady at 1.16 mb/d, up 190 kb/d y-o-y, despite the ongoing conflict that is targeting oil fields and export terminals. Despite the escalating tension, Libya's National Oil Corp still wants to develop the 50 kb/d North Hamada oil field in western Libya after operator Medco Energi failed to find investors. Production was set to start by 2017.

Supply in **Angola** rose 40 kb/d to 1.45 mb/d, down 60 kb/d on a year ago. Output has declined because of technical and operational issues at some fields and a lack of investment. This may change due to improvements in commercial terms. Eni has meanwhile made a new light oil discovery close to its existing offshore West Hub development, its fifth find in 12 months in deep water Block 15. Production from the Agidigbo field will be fast-tracked to the Armada Olombendo FPSO and be exported as Olombendo crude. Block 15 started up in November 2014 and is now pumping around 155 kb/d.

Production in **Congo** slipped 20 kb/d to 340 kb/d. Lukoil has agreed to buy a minority stake in Eni's producing Marine XII oil block off Congo for a reported \$800 million. Under the deal, Lukoil will acquire New Age's 25% stake in the license, which includes five discovered fields. Two of them, Nene and Litchendjili, started up in 2015 and are producing nearly 30 kb/d. **Algerian** output inched up to 1.03 mb/d during May, while supply in **Gabon** was steady at 200 kb/d. In **Equatorial Guinea**, output dipped to 100 kb/d versus 110 kb/d in April.

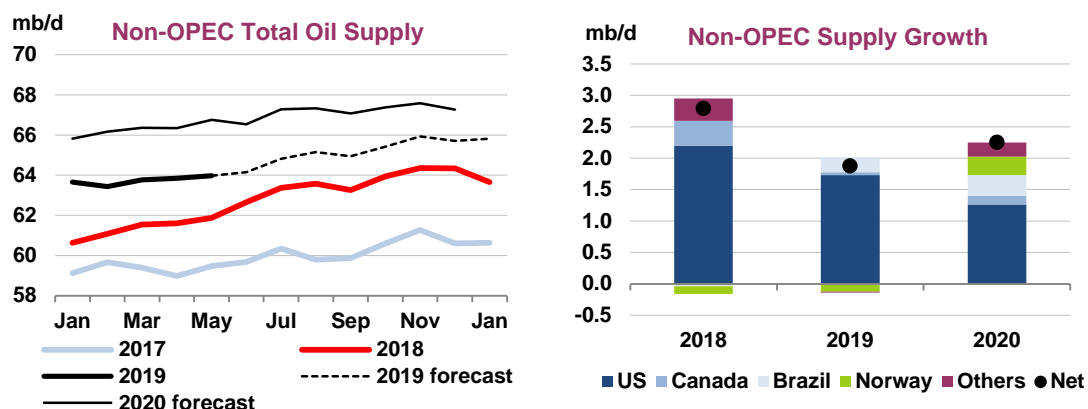
Production in **Venezuela** edged down 20 kb/d in May as power supply problems and US sanctions hampered operations. Output of 810 kb/d was down 620 kb/d on a year ago and is a third of the level at the start of 2016. Heavy crude upgraders run by Petroleos de Venezuela (PDVSA) and its foreign partners struggled to operate during May due to power supply issues and a lack of diluent for blending.



Production from the Orinoco upgraders had been holding up well but is now on the decline as the day-to-day running of the oil sector grows ever more complicated and PDVSA is unable to pay its investors. Even as production slumps, shipments of crude held up relatively well, possibly because exports were drawn from stocks. Exports during May were 910 kb/d compared to 890 kb/d in April, according to *Kpler* data. Production in **Ecuador** was steady versus April at 530 kb/d.

Non-OPEC supply

Non-OPEC oil supply rose by 130 kb/d in May, to 63.97 mb/d, on higher output from the US, Brazil and Azerbaijan. Seasonally rising biofuels production also contributed. In contrast, Russian production dropped to its lowest level in a year, while maintenance affected operations in Canada, Kazakhstan and the North Sea. Growth slowed to 2.1 mb/d y-o-y from 2.5 mb/d on average in 1Q19 and 3.4 mb/d during the second half of 2018. For the year as a whole, non-OPEC output is expected to grow by 1.9 mb/d – unchanged from last month's *Report*.



In 2020, non-OPEC oil supply growth is forecast to accelerate to 2.3 mb/d. While the US continues to dominate gains, its contribution will slow to 56% of the net increase from more than 90% in 2019 and 79% last year. Outside of the US, production increases will primarily come from Brazil and Norway where new fields are starting up. New supplies will also come from Guyana, as ExxonMobil, Hess and partners gear up for first oil at its Liza prospect. Despite efforts to stem declines, the biggest losses will take place in Asia and in Mexico.

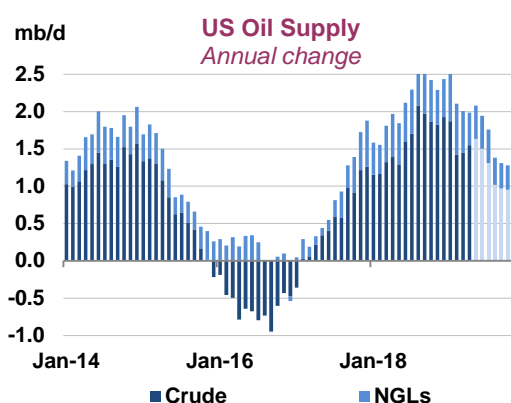
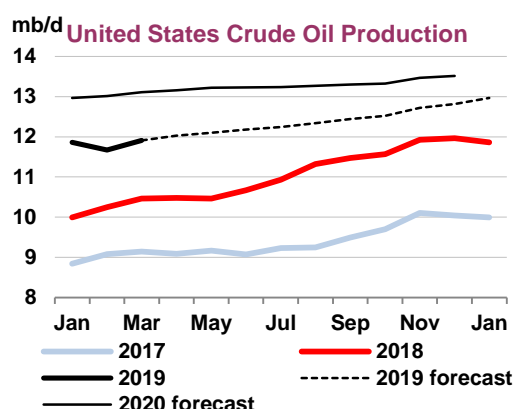
The outlook for producers party to the OPEC+ output deal and for Canada is more uncertain, however, as it will depend on whether current output restrictions are extended, scaled back or terminated. For now, we are factoring in a modest easing of cuts during the second half of the year, so that Russia could add 75 kb/d this year and a further 140 kb/d in 2020. Canadian supply is set to rise by 50 kb/d on average in 2019 and by 140 kb/d next year, assuming producers line up sufficient rail capacity to bring oil to market.

Non-OPEC Supply

(million barrels per day)

	2018	1Q19	2Q19	3Q19	4Q19	2019	1Q20	2Q20	3Q20	4Q20	2020
Americas	22.8	23.8	24.0	24.5	25.1	24.4	25.4	25.4	25.9	26.1	25.7
Europe	3.5	3.5	3.2	3.3	3.4	3.4	3.7	3.5	3.7	3.9	3.7
Asia Oceania	0.4	0.4	0.5	0.5	0.5	0.5	0.5	0.5	0.6	0.6	0.5
Total OECD	26.7	27.7	27.7	28.3	29.0	28.2	29.6	29.5	30.1	30.6	29.9
Former USSR	14.6	14.8	14.4	14.5	14.7	14.6	14.8	14.8	14.7	14.8	14.8
Europe	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
China	3.8	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.8	3.9	3.9
Other Asia	3.3	3.3	3.2	3.2	3.2	3.2	3.2	3.1	3.1	3.1	3.1
Latin America	4.5	4.5	4.7	4.9	5.0	4.8	5.1	5.1	5.1	5.1	5.1
Middle East	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	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
Total Non-OECD	31.1	31.4	31.1	31.3	31.6	31.3	31.8	31.8	31.5	31.6	31.7
Processing Gains	2.3	2.3	2.3	2.3	2.3	2.3	2.4	2.4	2.4	2.4	2.4
Global Biofuels	2.6	2.2	2.8	3.1	2.7	2.7	2.4	2.9	3.2	2.8	2.8
Total Non-OPEC	62.7	63.6	64.0	65.0	65.7	64.6	66.1	66.5	67.2	67.4	66.8
Annual Chg (mb/d)	2.8	2.5	1.9	1.6	1.5	1.9	2.5	2.6	2.3	1.7	2.3
Changes from last OMR (mb/d)	0.0	0.0	0.1	-0.1	0.0	0.0					

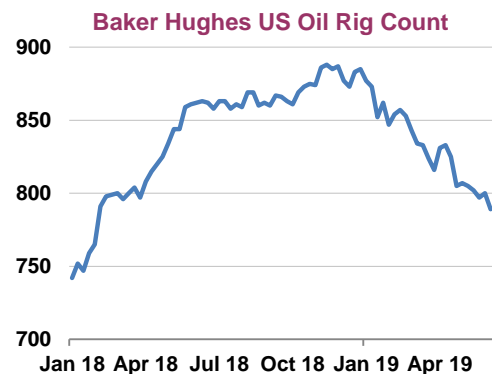
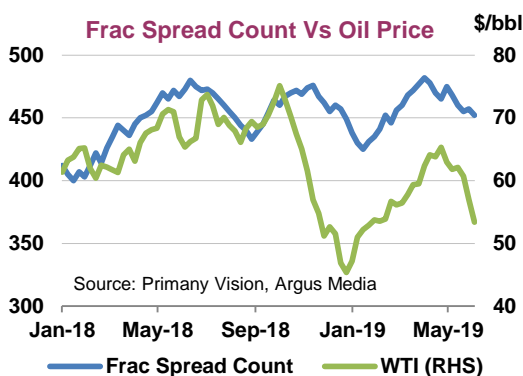
US crude and condensate production rose by 240 kb/d in March to 11.9 mb/d, as the Gulf of Mexico rebounded from February lows. Onshore output saw marginal gains overall with North Dakota rising 42 kb/d m-o-m, New Mexico up by 23 kb/d while Colorado (-17 kb/d) and Texas (-6 kb/d) both posted small declines. Total crude oil production was 1.4 mb/d higher than a year ago, with Texas accounting for nearly half of the gain. Offshore supplies stood 225 kb/d higher than a year ago in March and should receive a further boost after Shell's 175 kboe/d Appomattox project started up ahead of schedule in May. NGL production inched 20 kb/d higher, to 4.7 mb/d - up 555 kb/d on a year ago.



With volatility returning to oil markets, and capital discipline a priority for many companies, the outlook for US oil production is again in question. In early June, WTI prices fell close to \$50/bbl. In recent months, producers have been less responsive to price changes, and it remains to be seen how activity will be adjusted if oil prices remain near \$50/bbl. At this level, US producers are generally able to cover their capital budgets and pay dividends, and many operators have pledged to maintain their earlier-stated

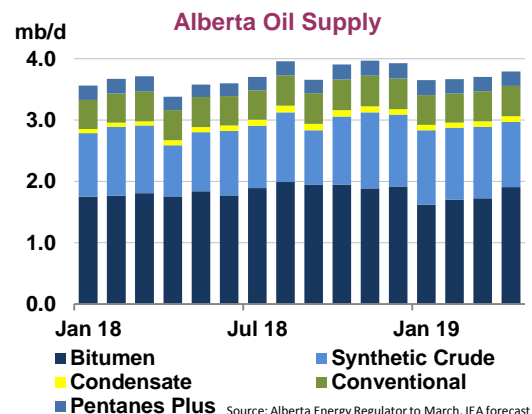
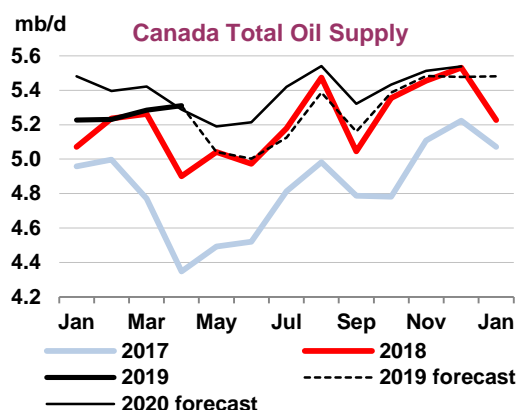
2019 capex plans. According to a March survey by the Federal Reserve Bank of Dallas, companies said they needed WTI to average only \$27-\$37/bbl to cover operating expenses. However, firms said they needed WTI to stay in a range from \$48-54/bbl to profitably drill a new well, with average breakeven prices in the Permian Basin at around \$50/bbl.

For now, producers continue to shed rigs. During May, the US rig count fell by 18, to 789 in early June. This leaves the domestic rig count at its lowest level since February 2018 and nearly 100 less than a recent peak of 888 in mid-November 2018. Despite a recovery in prices from the low point of \$42/bbl in December, the rig count has continued to fall. According to Primary Vision, the Frac Spread Count has fluctuated in a range between 425 and 480 since the start of the year, much in line with oil price swings.



In the meantime, the number of drilled but uncompleted wells (DUCs) is also rising, which could provide a boost to output later in the year, even with fewer rigs in service. According to the Energy Information Administration, the number of DUCs at end April was 8 390, compared with 8 100 at the start of the year. It is possible that this is partly due to infrastructure constraints in the Permian, and to timing issues as most wells are drilled and completed in batches, or operators could be waiting for higher prices.

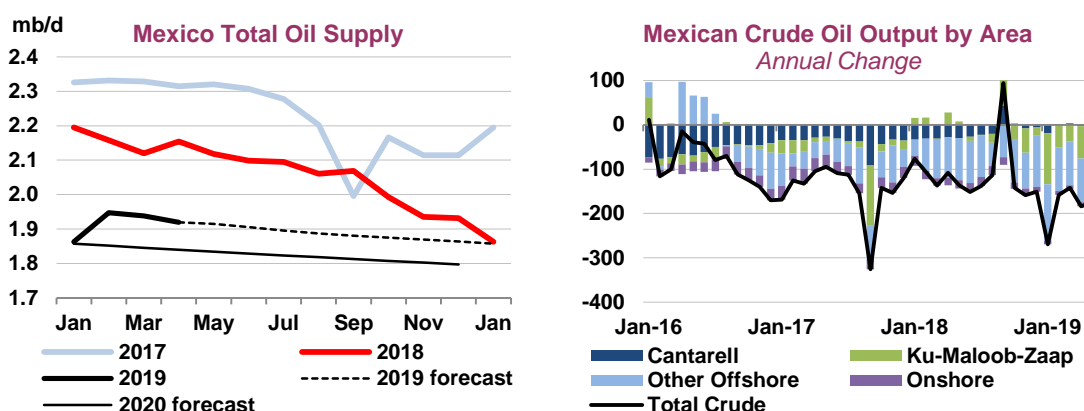
Contrary to expectations, **Canadian** oil supplies held steady in April, at around 5.3 mb/d, some 410 kb/d higher than a year ago. Oil production in Alberta normally falls sharply in April due to maintenance, but this year, mandatory output curbs have distorted the normal seasonal patterns. Synthetic crude oil production eased by 105 kb/d m-o-m. However, this was more than offset by an increase in output of raw bitumen, which rose by 180 kb/d m-o-m to 1.9 mb/d. Offshore output was unchanged m-o-m at around 260 kb/d, as a continued ramp-up of the Hebron field (to 100 kb/d) was offset by lower output elsewhere. Production at White Rose, which was suspended in November after a spill, was 10 kb/d, compared with pre-shutdown levels of around 30 kb/d.



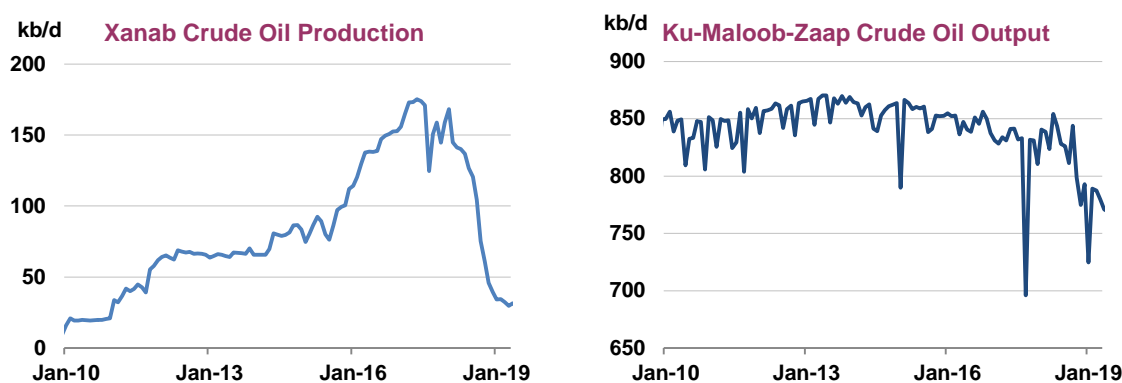
Based on investor presentations and announcements from Canada's largest producers, we expect Alberta's oil production to fall in May due to maintenance at oil sands facilities. There are turnarounds during 2Q19 at Shell's Scotford upgrader, Cenovus's Christina Lake, Imperial Oil's Cold Lake and Kearnal projects, Suncor's Firebag and Fort Hills's oil sands sites and its U1 upgrader. In early June, wildfires

forced Canadian Natural Resources to shut in 65 kb/d of crude oil production at its Pelican Lake and Woodenhouse operations. Output was restored on 10 June.

In another blow to the industry, in early June a Minnesota court ruled that Enbridge Inc.'s environmental impact statement for the replacement of its Line 3 oil pipeline is inadequate, raising the possibility of further delays. The Line 3 project would double to 760 kb/d the volumes of crude that could be moved from Alberta to Wisconsin, providing much-needed relief from congestion on existing Canadian pipelines. It is the furthest advanced of three proposed pipeline projects – including the Canadian government-owned Trans Mountain and the Keystone XL – that would ease Alberta's oil glut. The Canadian government will decide by June 18 whether to proceed with expanding its Trans Mountain pipeline, which would increase the flow of oil from Alberta to the British Columbia coast.



Despite efforts to stem declines, **Mexican** oil supply eased another 20 kb/d in April. At 1.92 mb/d, total oil production was 235 kb/d, or 10.9% lower than a year ago. Data from the hydrocarbon regulator, CNH, showed the largest y-o-y declines stemmed from the Ku-Maloob-Zaap (KMZ) complex and from the Xanab field – a shallow water field in the offshore Tabasco region. KMZ produced 780 kb/d in April, compared with 855 kb/d a year ago. Output at Maloob saw particularly steep declines, falling by 54 kb/d, or 12%, in just one year. Production at Xanab has fallen even more steeply, losing 110 kb/d in a year, or 79%, to produce only 30 kb/d in April. In May, CNH fined Pemex nearly US\$1.3mn for having overexploited the field.

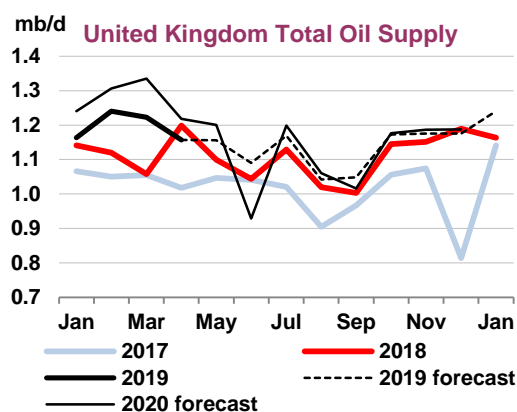
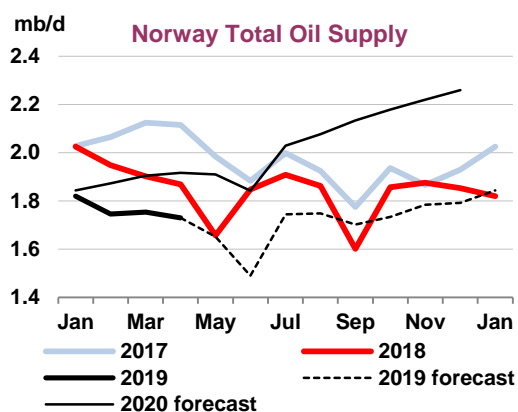


The government, along with Pemex, plans to reverse production declines by the end of the year by boosting drilling activity. Pemex has announced it will drill 506 wells in 2019, which would be its highest level since 2014. This compares to only 80 in 2018. The company is currently developing 20 onshore and shallow water fields to boost production. It is fast tracking the development of heavy oil field complexes Ek-Balam and Ayatsil-Tekel-Utsil. Pemex also plans to reopen some closed wells and use enhanced oil recovery techniques such as water injection at onshore fields like San Ramon and Blasill+o.

New output will also come from recent discoveries. The Xikin, Esah, Kinbe, Koban, Mulach and Manik offshore fields could add up to 210 kb/d of crude and 350 million cubic feet per day (mmcf/d) of natural gas by the second half of 2020, according to Pemex. The first field to add barrels is expected to be Xikin, discovered three years ago, where early production is set to start up later this year. The Esah field should follow in the first quarter of 2020. The new fields will contribute relatively quickly to Pemex's output in shallow waters, where the vast majority of its production originates. As such, we expect the declines in Mexico's oil production to ease to 70 kb/d next year, compared with a fall of 180 kb/d in 2019.

Norwegian total oil production fell by 24 kb/d m-o-m in April to a seven-month low of 1.73 mb/d, and was 140 kb/d below year ago levels. Planned maintenance in April and May hampered flows from the Statfjord, Ula, Valhall and Oseberg fields while the Snorre B platform has been shut-in since March. In June, the return of some of these fields and first production from Equinor's Trestakk field will be offset by heavy maintenance at Ekofisk causing total oil output to decline by 160 kb/d m-o-m.

In 2020, Norwegian output will return to growth after declining for three years. This is largely due to the Johan Sverdrup project, which provides 225 kb/d of the total 290 kb/d of growth. Other smaller projects contribute to gains, including Var Energi's Balder X project, the ongoing ramp up from Wintershall's Maria project and Equinor's Oseberg South project. In May, Equinor obtained government approval for the second phase of Johan Sverdrup. This will see the project's capacity boosted from 440 kboe/d to 660 kboe/d in 2022.

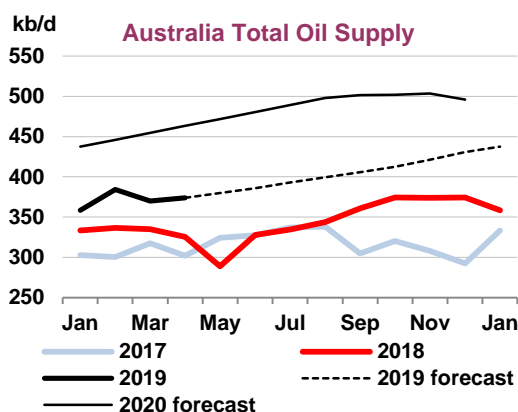


Data from JODI show that in April the UK's oil output dipped below year ago levels to 1.16 mb/d. For 2019 as a whole, production is expected to grow 45 kb/d as output from BP's West of Shetlands fields Clair Ridge and Schiehallion continues to ramp up. Growth will slow to 20 kb/d in 2020, as a full maintenance shutdown of the Forties Pipeline System that is scheduled for June offsets rising West of Shetlands supply and new flows from the Mariner field which is due to start up later in 2019. There may be upside if Clair Ridge continues to outperform expectations with BP announcing that the field could potentially ramp up to 120 kb/d at plateau.

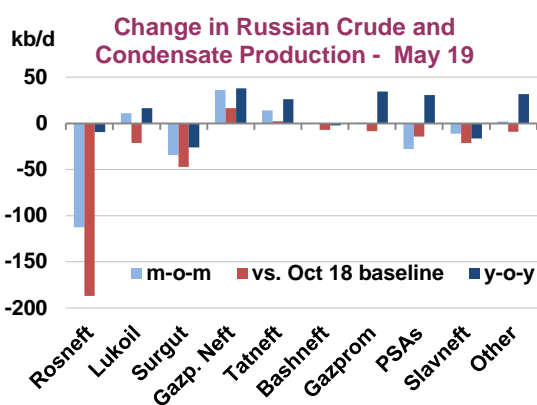
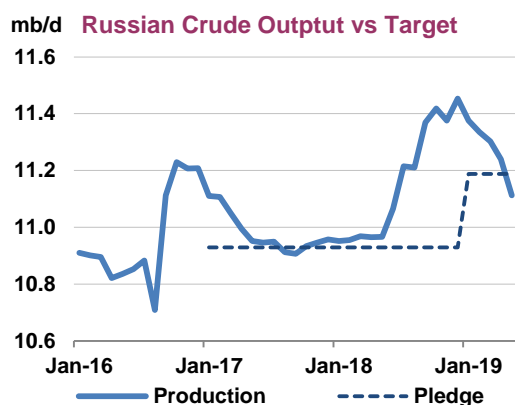
Looking beyond 2020, a number of companies reiterated their commitment to growth in the UK North Sea. Shell plans to drill ten exploration and development wells per year over the next three years to support projects sanctioned in 2018 and Equinor expects to sanction or start up four cross-border projects by 2022. These companies, along with BP, Total, Chrysaor and Spirit Energy, were awarded blocks in the UK's 31st offshore licensing round, which focused on frontier areas.

The release of July loading programmes show output from Forties, Ekofisk, Troll, Oseberg and Brent ticking up to 968 kb/d, a five-month high. Ekofisk loadings are expected to rebound by 270 kb/d m-o-m, following the heavy maintenance in June, to their highest level in over three years.

Australian oil output increased by 50 kb/d y-o-y in April, driven by higher condensate and NGL production associated with the Ichthys LNG project and the Prelude floating LNG project. In their 1Q19 results statement, Ichthys operator INPEX reported that condensate flows had already reached 40 kb/d on average since the project started up at the end of 2018. The two projects will continue to ramp up and will add a combined 110 kb/d of output by the end of 2020. This more than offsets declines in crude production and gives total growth of 50 kb/d and 85 kb/d in 2019 and 2020, respectively.



Russian crude and condensate output fell below its supply target for the first time in May, as contamination along the Druzhba line added to earlier cuts made in accordance with the OPEC+ output deal. At 11.1 mb/d, output was 125 kb/d lower than in April and 305 kb/d below the October 2018 level, achieving a compliance rate of 132%. The biggest month-on-month decline came from Rosneft, which saw its output drop by 110 kb/d to 3.8 mb/d (excluding its Bashneft subsidiary). Rosneft's output was unchanged from a year ago and 190 kb/d lower than the October baseline. Sugutneftegaz cut production by 35 kb/d, to stand 50 kb/d below the baseline while PSA producers lost 28 kb/d and Slavneft 11 kb/d.



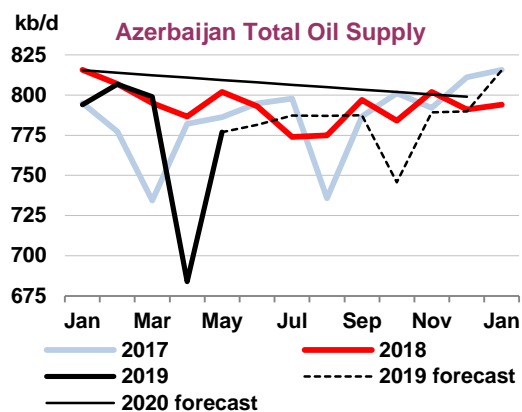
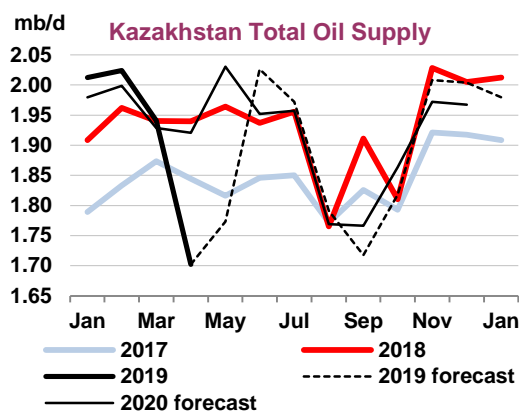
Russian crude exports fell by 0.47 mb/d m-o-m in May to 4.8 mb/d despite peak refinery turnarounds, as the entire Druzhba pipeline remained closed. Only partial flows on the southern leg of the system have resumed, with a restart of the northern leg still months away. Seaborne exports rose m-o-m but several cargoes of oil remained unsold due to a high content of organic chloride.

According to Russian Energy Minister Novak, oil output will decrease further in June but then recover. Daily CDU-Tek numbers show production falling to a three year-low of 10.87 mb/d in early June. The outlook for the remainder of the year and for 2020 will depend on the outcome of the meeting of OPEC+ agreement ministers at the end of June. President Vladimir Putin said that a price of \$60-\$65/bbl is acceptable but that Russia would take a joint decision on output with its OPEC+ colleagues. If the cuts are terminated, oil companies and officials have signalled that output could recover quickly. For now, we assume Russian production will increase modestly during the second half of the year so that output rises by 75 kb/d on average for the year as a whole and by 140 kb/d during 2020. If the agreement rolls over, we will adjust our forecast accordingly.

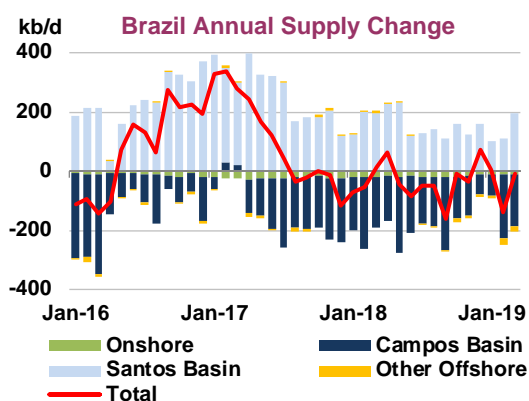
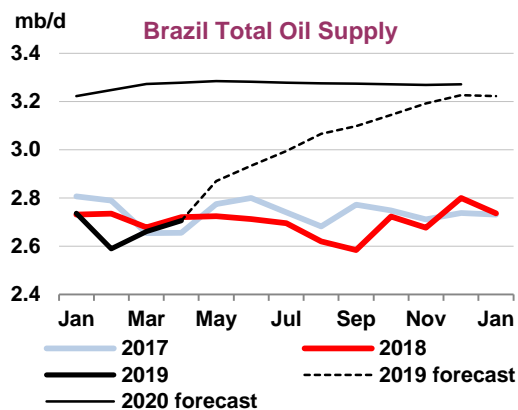
Kazakhstan's crude oil and condensate production plunged 240 kb/d in April, to a near three-year low just shy of 1.7 mb/d. The bulk of the decline came from the Kashagan field, which was shut from mid-month and only produced 90 kb/d on average. Output at Tengiz held steady at around 610 kb/d, while Karachaganak inched 10 kb/d higher to 250 kb/d. Production at other fields dropped by 40 kb/d.

While Kashagan restarted 10 days ahead of schedule, on 19 May, CPC loadings for the month suggest production remained at low levels throughout May. Shipments totaled only 50 kb/d on average. By early June, however, production reportedly reached an all-time high of 400 kb/d, compared with pre-shutdown levels of around 330 kb/d. Total CPC volumes were 65 kb/d higher than in April, on a sharp increase in Tengiz shipments.

Azerbaijan's output, meanwhile, recovered in May, from a 12-year low of 685 kb/d reached in April when BP undertook maintenance at its Central Azeri platform at the Azeri-Chirag-Guneshli (ACG) offshore oil complex. At 776 kb/d, production was 90 kb/d higher than a month earlier and in line with the supply target set for the OPEC+ deal. BP announced that maintenance on the ACG Western Chirag platform will take place in October.



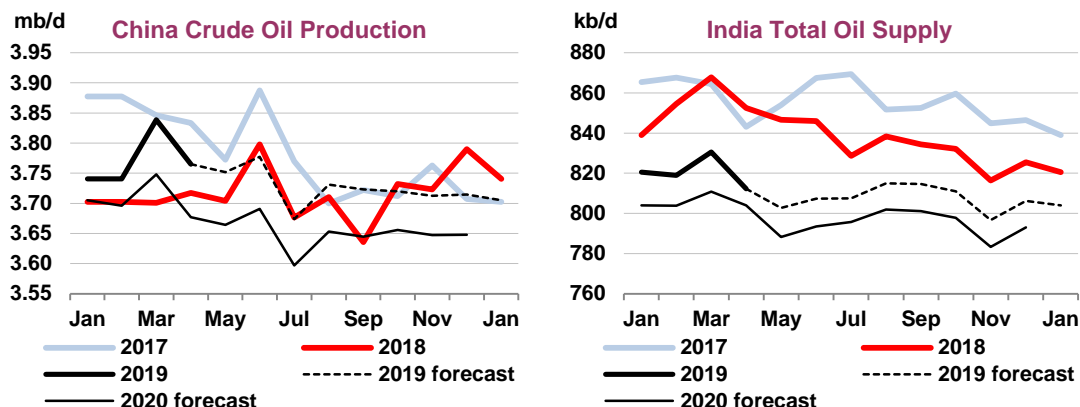
Brazil's oil production rose another 45 kb/d in April, to 2.7 mb/d, as maintenance shutdowns eased and new production units continued to ramp-up. Production in the Santos Basin was 200 kb/d higher than a year ago, with the newly commissioned Buzios field contributing 155 kb/d of the annual gain. The field, which now boasts four 150 kb/d FPSOs, will add considerable growth over the coming year.



In the Campos Basin, production was 180 kb/d lower than a year ago despite an 80 kb/d increase from the Tartaruga Verde field that started up last June. Declines were especially steep at the Marlim fields, which includes Marlim, Marlim South and Marlim Leste. While rising 20 kb/d m-o-m to 260 kb/d, output at the three fields was 100 kb/d below a year ago. Roncador and Jubarte fell by 48 kb/d and 40 kb/d. Despite the steep declines in the Campos, Brazilian supply is expected to post strong gains, adding an average of 240 kb/d this year and 330 kb/d in 2020.

China's crude oil output fell by 75 kb/d in April, to 3.76 mb/d. The bulk of the decline stemmed from the Guangdong province (-53 kb/d) and Tianjin (-16 kb/d), which include production in the South China Sea

and Bohai Bay. Total crude oil supply was nevertheless 50 kb/d higher than a year ago, fuelled by increased investments from Chinese national oil companies. For the year as a whole, China could post its first annual increase since 2015, rising roughly 30 kb/d to 3.75 mb/d before natural declines resume next year. Including coal to liquids, Chinese oil supply is expected to average 3.9 mb/d in 2019 and 3.86 kb/d next year.



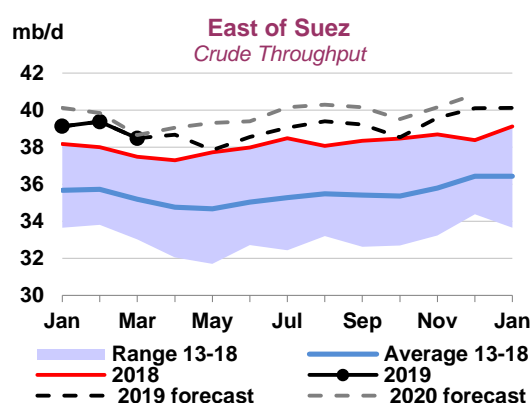
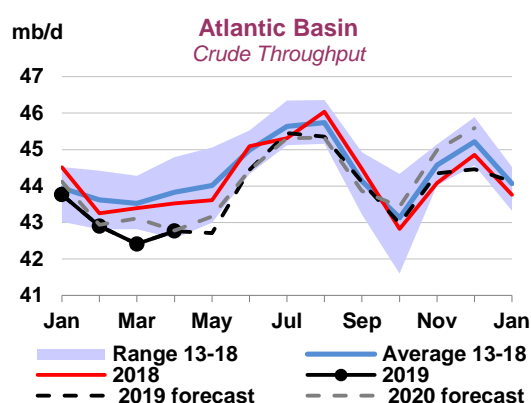
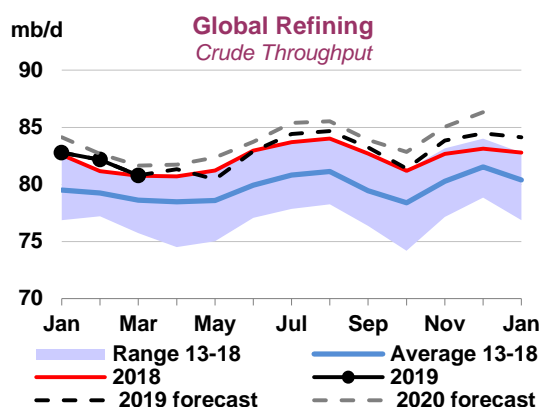
Indian output fell by 18 kb/d in April, to 810 kb/d, roughly 40 kb/d lower than a year ago. Production has fallen steadily since the start of 2018 and further declines are expected next year, as the start-up of the KG-DWN-98/2 deep-water project has been delayed from its planned 2020 start-up. **Malaysian** production fell by 23 kb/d m-o-m, to 617 kb/d, compared with 637 kb/d a year earlier and 630 kb/d in October, which serves as the base line from which OPEC+ production cuts are calculated. Malaysia had pledged to curb output by 40 kb/d. According to preliminary data, **Vietnam's** crude oil production held steady at around 230 kb/d in May, down 17 kb/d on a year ago. **Thailand's** crude and condensate production rose by 27 kb/d in March, to 242 kb/d.

REFINING

Summary

Global refining throughput in May was just 80.4 mb/d, down 0.9 mb/d month-on-month (m-o-m) and 0.8 mb/d year-on-year (y-o-y). This is the lowest level since March 2017. Unplanned outages in Europe and the US Midwest augmented an already high maintenance season globally. In 2Q19, runs are expected to decline 0.1 mb/d y-o-y.

With global refining activity growing every year, seasonal variations also increase in amplitude. This year, we expect a 4.2 mb/d swing between the lowest and highest months, May and August, up from last year's seasonal gain of 3.3 mb/d. This seasonal ramp-up is concentrated in the Western Hemisphere: refinery runs in the Atlantic Basin, led by the US and Europe, will increase by 0.9 mb/d on a monthly basis. Looking further ahead into 2020, we expect throughput growth for the year to be double this year's modest rise of 0.5 mb/d (see *What does 2020 hold in store for refiners?*) as 3.5 mb/d of new capacity comes online over 2019-20.



Global Refinery Crude Throughput¹

(million barrels per day)

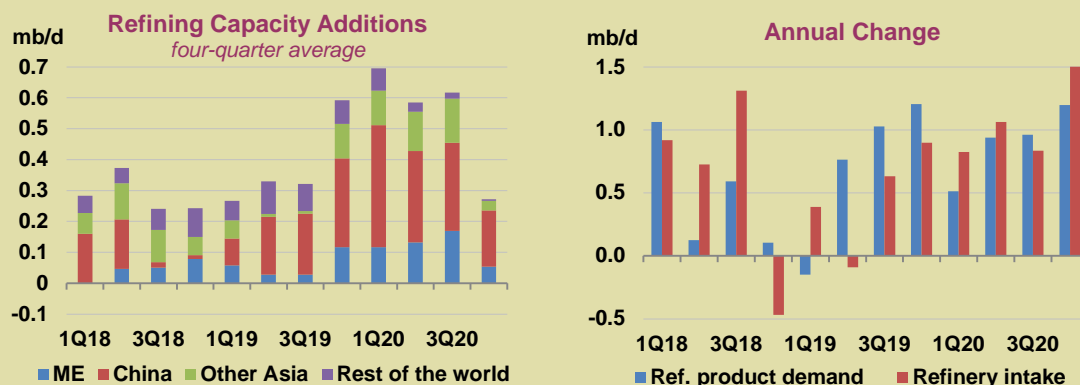
	2018	Mar 19	1Q19	Apr 19	May 19	Jun 19	2Q19	3Q19	4Q19	2019	2020
Americas	19.4	18.4	18.7	18.7	19.2	19.9	19.3	19.9	19.5	19.4	19.7
Europe	12.0	11.9	12.1	12.0	11.3	12.0	11.8	12.4	11.9	12.0	12.1
Asia Oceania	7.0	7.0	7.1	7.1	6.7	6.7	6.8	7.1	6.9	7.0	7.0
Total OECD	38.4	37.3	37.9	37.9	37.2	38.6	37.9	39.5	38.3	38.4	38.8
FSU	7.0	6.8	7.0	6.6	6.6	7.0	6.7	7.0	7.0	6.9	7.0
Non-OECD Europe	0.6	0.5	0.5	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6
China	12.1	12.4	12.6	12.6	12.3	12.5	12.5	12.7	12.7	12.6	12.6
Other Asia	10.6	10.7	10.8	10.5	10.6	10.8	10.6	10.7	10.8	10.7	11.2
Latin America	3.6	3.1	3.1	3.1	3.3	3.3	3.2	3.4	3.3	3.2	3.1
Middle East	7.8	7.7	7.9	8.0	7.9	8.1	8.0	8.1	8.4	8.1	8.4
Africa	2.0	2.1	2.0	2.1	1.9	1.9	2.0	2.0	2.0	2.0	1.9
Total Non-OECD	43.8	43.4	43.9	43.4	43.1	44.2	43.6	44.5	44.8	44.2	44.9
Total	82.2	80.7	81.8	81.2	80.4	82.8	81.5	84.0	83.1	82.6	83.7
Year-on-year change	0.6	0.0	0.4	0.6	-0.8	-0.1	-0.1	0.6	0.9	0.5	1.1

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

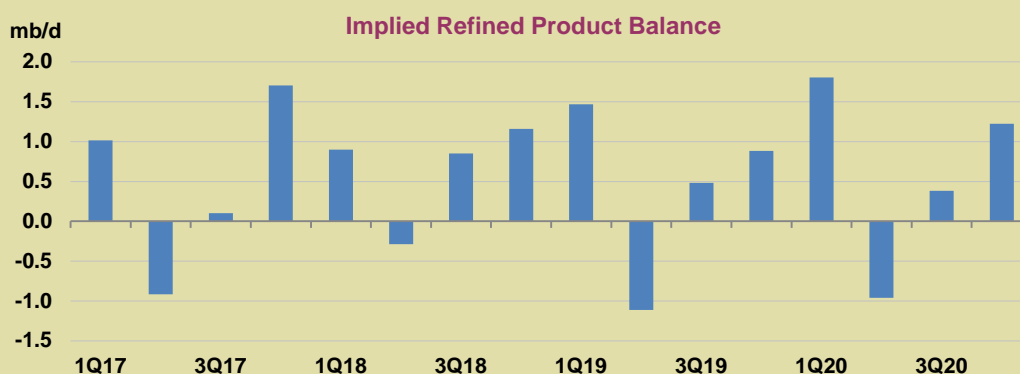
What does 2020 hold in store for refiners?

We have made several changes to the refining capacity estimates published in March in *Oil 2019 – Analysis and Forecast to 2024*. Nominal additions in 2019 are now forecast to be 2.4 mb/d, 0.3 mb/d lower than previously estimated, while 2020 additions are 1.1 mb/d, or 0.6 mb/d higher. The changes are mainly due to moving a large Chinese project (Zhejiang Petrochemical) to 2020 and including two additional independent refinery units in China. In our forecast, capacity additions over 2019 and 2020 total 3.5 mb/d.

Assigning capacity additions to specific months or quarters is difficult, as intended start dates are not always met and refineries tend to ramp up over several months. Rolling averages over four quarters are therefore a better indicator of capacity growth. In 2019-20, additions nominally peak in 4Q19 at 1.4 mb/d. Using the rolling average method not only smooths this quarterly peak but also shifts the bulk of the additions to 2020.



In any case, we take only limited guidance from capacity additions in forecasting refining throughput. While individual countries' refinery intake may increase with new capacity coming online, global activity levels will still depend on market demand for refined products. Over 2019 and 2020, refined product demand growth is forecast to total 1.6 mb/d, making room for only half the capacity additions. The rest will have to compete with existing refineries, as global oil market trends are unlikely to incentivise large product stock builds.



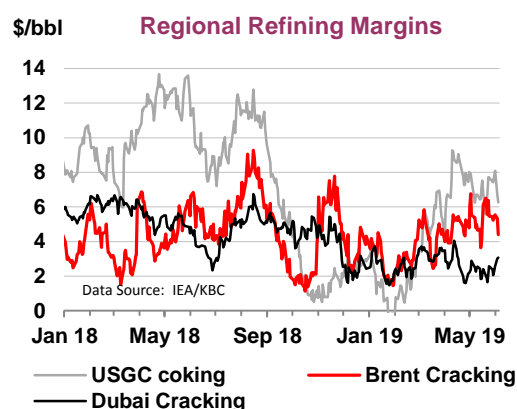
Next year sees the implementation by the International Maritime Organisation of new bunker fuel emission standards. As a result, diesel demand growth jumps to 1.2 mb/d. About 1 mb/d of incremental diesel output is forecast to be available from a combination of new refinery output and yield switches, along with biodiesel and other non-petroleum based supply. This means that diesel markets in 2020 may be in deficit by 200 kb/d. The tightness will take time to materialise. In 1Q20, the market will be generally adequately supplied, as onshore diesel demand typically falls by 1 mb/d from 4Q19. In 2Q20, seasonal demand growth and refinery maintenance may result in gasoil stocks drawing by close to 1 mb/d, easing only in the last quarter of the year. Our first forecast for refining activity in 2020 sees annual growth of 1.1 mb/d versus growth in refined product demand of 0.9 mb/d.

The IMO specification change will also result in the sharpest reduction of allowed sulphur content in refined products, increasing hydrogen demand for refiners. IEA's recently released hydrogen report sheds light on its current and potential uses (see *The Future of Hydrogen*).

Margins

In May, crude prices declined modestly in monthly average terms, by around \$1.3/bbl, but refining margins increased only in regions with unexpectedly high unplanned outages such as parts of Europe and the US Midwest. Product cracks moved in a particularly uncoordinated fashion, with naphtha suffering from low petrochemical demand, fuel oil strengthening on lower crude prices and gasoline and middle distillates cracks diverging regionally.

The recent sharp decline in crude prices started in earnest in the last week of May, which helped US and Singapore margins gain week-on-week. Despite the somewhat underwhelming performance in May, in the last two months margins have generally increased from 1Q19 levels, reflecting exceptionally high outages and some of the weakest refining activity levels observed in the last two years.



IEA/KBC Global Indicator Refining Margins¹

	Monthly Average				Change	Average for week ending:					
	Feb 19	Mar 19	Apr 19	May 19	May 19-Apr 19	10 May	17 May	24 May	31 May	07 Jun	
NW Europe											
Brent (Cracking)	3.12	4.27	4.76	5.38	↑ 0.63	4.95	4.70	5.96	5.40	3.56	
Urals (Cracking)	3.84	4.95	4.08	4.50	↑ 0.42	3.98	3.72	5.27	5.07	4.11	
Brent (Hydroskimming)	1.38	2.02	1.09	1.41	↑ 0.33	1.01	0.27	2.06	2.07	1.42	
Urals (Hydroskimming)	1.32	2.15	-0.06	-0.70	↓ -0.64	-0.92	-1.62	-0.25	0.02	0.47	
Mediterranean											
Es Sider (Cracking)	6.55	7.16	5.03	4.54	↓ -0.49	4.70	3.68	4.54	4.41	4.06	
Urals (Cracking)	6.03	6.57	3.99	3.18	↓ -0.81	3.41	2.48	3.11	2.98	3.69	
Es Sider (Hydroskimming)	4.24	4.35	1.76	1.28	↓ -0.48	1.28	-0.04	1.51	1.85	2.16	
Urals (Hydroskimming)	2.06	2.57	-0.35	-1.94	↓ -1.59	-1.59	-2.87	-2.15	-1.85	-0.18	
US Gulf Coast											
50/50 HLS/LLS (Cracking)	5.43	9.44	10.29	9.42	↓ -0.87	8.74	8.73	9.42	10.07	9.87	
Mars (Cracking)	1.78	3.92	5.24	4.11	↓ -1.13	3.61	3.38	3.67	5.47	4.81	
ASCI (Cracking)	1.90	3.86	5.09	3.94	↓ -1.16	3.39	3.31	3.49	5.25	4.60	
50/50 HLS/LLS (Coking)	5.85	10.27	11.47	10.61	↓ -0.85	9.97	9.98	10.54	11.13	10.59	
50/50 Maya/Mars (Coking)	1.61	5.27	7.60	7.09	↓ -0.51	6.59	6.88	6.81	7.69	6.22	
ASCI (Coking)	3.35	6.39	8.16	7.95	↓ -0.21	6.98	7.61	7.90	9.18	8.38	
US Midwest											
WTI (Cracking)	12.87	17.58	20.47	23.23	↑ 2.76	23.99	24.40	21.74	22.68	20.26	
30/70 WCS/Bakken (Cracking)	12.71	16.54	19.72	23.27	↑ 3.55	23.73	23.54	22.30	23.58	19.43	
Bakken (Cracking)	12.44	18.00	22.32	25.34	↑ 3.01	26.08	26.01	24.11	25.09	21.07	
WTI (Coking)	13.43	18.64	22.03	24.98	↑ 2.94	25.88	26.30	23.34	24.20	21.23	
30/70 WCS/Bakken (Coking)	13.56	18.21	21.87	26.24	↑ 4.37	26.51	26.83	25.50	26.39	21.70	
Bakken (Coking)	12.43	18.27	22.85	25.97	↑ 3.12	26.80	26.72	24.67	25.61	21.33	
Singapore											
Dubai (Hydroskimming)	0.62	0.76	-0.78	-1.57	↓ -0.79	-1.21	-2.02	-1.88	-1.29	0.38	
Tapis (Hydroskimming)	0.74	2.24	0.00	-0.93	↓ -0.93	-1.48	-2.04	0.36	-0.54	-1.68	
Dubai (Hydrocracking)	2.50	3.33	2.72	2.28	↓ -0.44	2.44	2.13	2.07	2.32	3.03	
Tapis (Hydrocracking)	1.72	3.75	2.15	0.60	↓ -1.55	0.56	-0.14	1.36	0.19	-1.78	

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

Source: IEA, KBC Advanced Technologies (KBC)

OECD refinery throughput

OECD data for February and March were revised higher on new Canadian numbers, which reflect changes in survey methodology. Preliminary April submissions showed runs up 530 kb/d m-o-m, up 245 kb/d y-o-y. May saw continued underperformance in the US.

Refinery Crude Throughput and Utilisation in OECD Countries

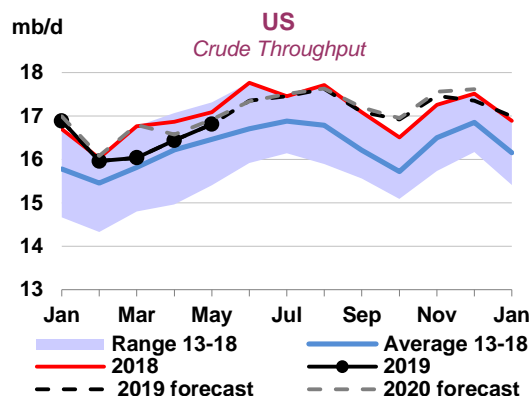
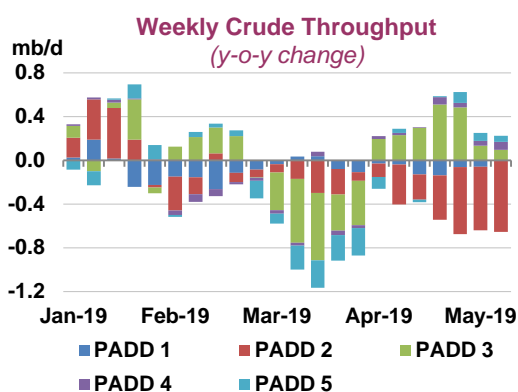
(million barrels per day)

	Nov 18	Dec 18	Jan 19	Feb 19	Mar 19	Apr 19	Change from		Utilisation rate ¹	
							Mar 19	Apr 18	Apr 19	Apr 18
US ²	17.15	17.41	16.79	15.86	15.94	16.34	0.40	-0.43	86%	89%
Canada	1.70	1.72	1.69	1.98	1.86	1.66	-0.20	0.45	83%	60%
Chile	0.19	0.20	0.21	0.20	0.19	0.20	0.01	0.00	88%	87%
Mexico	0.51	0.50	0.49	0.59	0.55	0.58	0.02	-0.18	35%	46%
OECD Americas³	19.55	19.82	19.17	18.64	18.54	18.78	0.24	-0.16	82%	83%
France	1.09	1.13	1.15	1.17	1.04	1.04	0.01	0.06	84%	80%
Germany	1.69	1.75	1.82	1.73	1.72	1.70	-0.02	-0.13	84%	91%
Italy	1.38	1.38	1.28	1.20	1.24	1.38	0.14	0.00	80%	79%
Netherlands	1.02	1.17	1.19	1.12	1.16	1.12	-0.04	0.00	87%	87%
Spain	1.38	1.35	1.39	1.29	1.37	1.38	0.01	0.00	98%	98%
United Kingdom	1.11	1.15	1.13	1.09	1.02	1.08	0.06	0.01	86%	85%
Other OECD Europe	4.16	4.43	4.30	4.44	4.37	4.34	-0.03	0.33	86%	83%
OECD Europe	11.82	12.36	12.26	12.03	11.92	12.04	0.13	0.26	86%	85%
Japan	3.18	3.21	3.24	3.19	3.14	3.09	-0.05	-0.07	87%	89%
South Korea	3.08	3.05	3.04	3.20	2.97	3.15	0.18	0.22	93%	89%
Other Asia Oceania	0.91	0.91	0.85	0.86	0.86	0.84	-0.03	0.05	96%	91%
OECD Asia Oceania	7.17	7.17	7.13	7.25	6.98	7.08	0.10	0.19	91%	89%
OECD Total	38.54	39.35	38.56	37.92	37.43	37.90	0.47	0.29	85%	85%

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

² US\$0

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

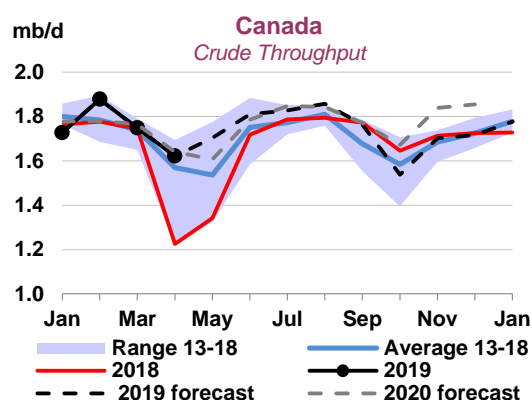
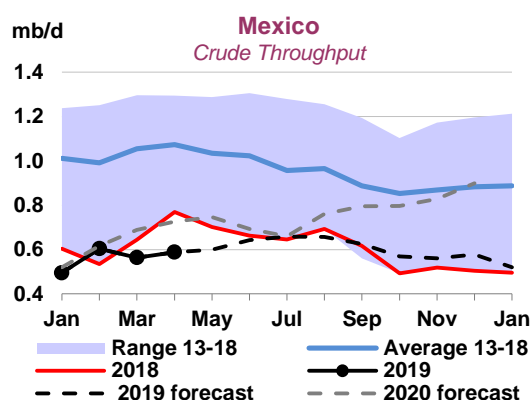


Year-to-date US refining activity has seen the worst seasonal performance since 2005. In May, runs increased by 370 kb/d m-o-m, but were 280 kb/d lower y-o-y. May activity was 700 kb/d below December, while usually the gap is narrower, or positive. Unplanned outages and weather disruption in PADD 2 resulted in some of the worst annual declines of activity in this region, with runs down almost 600 kb/d y-o-y in May, or around 16% of capacity. Throughput recovery in PADD 3 and elsewhere was too slow to compensate for this.

The month also brought two pieces of potentially worrying news for refiners. First, the US Administration announced tariffs on imports from Mexico (subsequently withdrawn); and second, it removed the summertime ban on higher ethanol blends. US Gulf Coast refiners import about 600 kb/d of Mexican crude oil, which has become a very important source of heavy grades since sanctions were imposed on Venezuela. Had the proposed tariffs actually been implemented it was not clear how they would have impacted refinery margins. Crude oil entering the US is generally subject to import duties at \$0.05 or \$0.1/bbl (except when a specific trade regime is set up with the exporting country), but if a refinery is set up as a free trade zone, it only pays the tariff when the product is delivered to US consumers. Almost all Gulf Coast refiners that import Mexican crude oil are set up as free trade zones. Moreover, Gulf Coast refiners export more gasoline and diesel to Mexico than the amount of crude they import. Total US PADD 3 refined product exports exceed 2 mb/d.

The lifting of the E15 (15% blend of ethanol with gasoline) summertime ban is estimated to have only a very limited impact on petroleum gasoline this year, replacing just over 1 kb/d, an invisible amount in the 9 mb/d US market. The lifting of the ban is not the same as the mandated blend – ethanol needs to compete with gasoline on price in order to incentivise higher blending. However, the potential can increase over time.

Mexican refinery throughput in April was just 24 kb/d higher than in March. The energy minister for the first time indicated dates for finalising extensive repairs at Mexico's six refineries. Work is expected to finish in 3Q20 and we forecast throughput reaching 900 kb/d by end-2020.



Changes to the **Canadian** refinery survey methodology resulted in higher historical values for February, while estimates for March and April were also revised higher. The new survey better reflects the intake of synthetic crude oils. Meanwhile, seasonal wildfires have been subdued this year and no disruptions to refiners are expected. The case of Canada's 80 kb/d Sturgeon refinery highlights the difficulties of refining the extra-heavy crudes that represent the bulk of the country's output. The refinery, launched in 2018, was specially designed to process bitumen, but due to the malfunction of residual petcoke equipment it has so far run synthetic crude oils.

In **Europe**, the Druzhba pipeline disruption continued to remain a major theme (see *Druzhba: bear in bull's clothing*). We have not changed our estimate of a 250 kb/d impact on throughputs in May-June, but it is now effectively concentrated in **Germany**. Other affected countries used a combination of planned turnarounds and crude sourced from strategic reserves or alternative suppliers, including the contaminated crude diluted with normal quality grades. Germany did not release emergency crude stocks. Partially offsetting lower run rates at the Leuna and Schwedt refineries, Bayernoil's 120 kb/d Vohburg site announced a gradual restart after a prolonged shutdown since September. We estimate Germany's May runs to have been 280 kb/d lower y-o-y at just 1.5 mb/d.

Druzhba: bear in bull's clothing

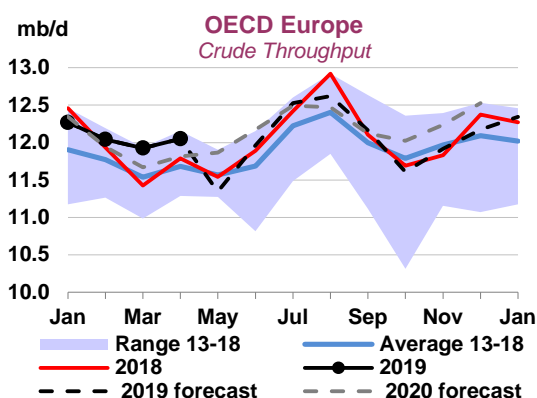
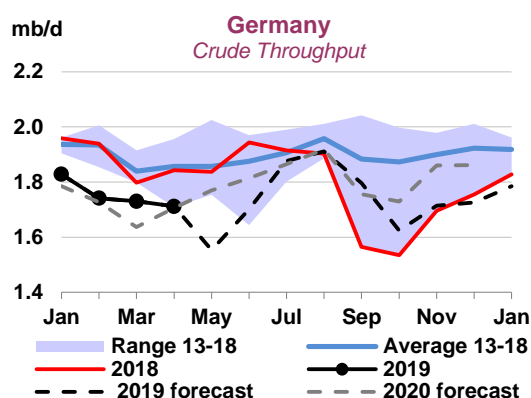
Operations on an unprecedented scale to remove and replace contaminated crude in the Druzhba pipeline system continued throughout May. The smaller southern branch of the pipeline system has reportedly been restored to normal capacity, with on-specification crude oil now being delivered to Belarus's largest refinery, Mozyr, and refineries in Hungary, Slovakia and Czech Republic.

According to the Belarus section operator of the Druzhba pipeline, 3.3 mb of contaminated crude in the Mozyr-Polish border section were pumped back to Russia, allowing the restart of two pipelines of this section for normal transit on 9 June, set to pump 470 kb/d. By early July, GOMELTRANSNEFT-DRUZHBA plans to finish emptying the third pipeline of this section, for storage in Belarus. The clean-up of the trunk section from the Russian border to Mozyr is expected to be completed by mid-August. In that case full transit could be restored by the end of that month.

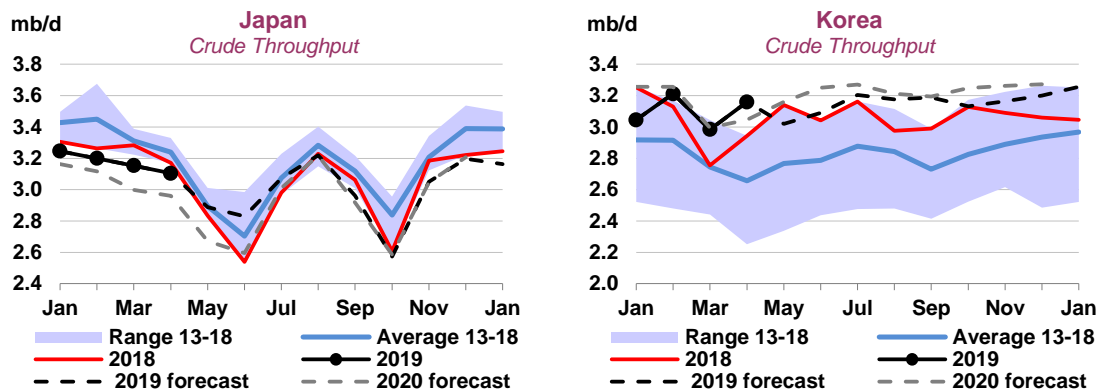
Polish refineries reported normal operating rates in May, except for a planned shutdown of a 65 kb/d unit at the Plock refinery. As of early June, the governments of Poland, Hungary and Czech Republic offered a release of 13.65 mb of crude stocks as a response to the disruption, of which 9.6 mb was taken up by the refiners. Slovakia and Germany did not release strategic stocks. Germany is the least dependent country on Druzhba among those affected, with only a quarter of its crude intake delivered via the Druzhba pipeline system. The Leuna and Schwedt refineries halved their activity in the second half of May, with Leuna shutting down several units and declaring force majeure on product supplies, reportedly after attempting to process contaminated crude. Total, owner of the Leuna refinery, said in early June the contaminated Urals should be priced at a discount of \$15/bbl to incentivise buyers. This estimate was later echoed by Lukoil's CEO, who also said that Russian refineries would have to process some of the contaminated crude that is being returned to Russia.

The first reaction to the Druzhba contamination was to expect tighter crude supplies. Indeed, in May, Druzhba shipments from Belarus to other destinations fell to only 100 kb/d from 1 mb/d in March when the pipeline was operating at its normal rates. In fact, the net result of the Druzhba crude contamination has been bearish for the oil market, for the following reasons:

- Global refinery crude demand was effectively reduced by about 250 kb/d, while crude output in Russia declined only marginally.
- Crude supply increased due to emergency stock releases. In Poland, Hungary and Czech Republic combined, about 300 kb/d was drawn down in May. Affected refineries also ran down operational inventories, which could have added another 150 kb/d of supply.
- With Druzhba effectively shut for most of May, Russia exported 400 kb/d more to seaborne markets via Black and Baltic seas and in the eastern direction, compared to April levels. This came at a time when global refinery throughput was the lowest in two years.
- Moreover, at least 15 mb of severely discounted Urals cargoes were trying to find buyers in May, with another 10-20 mb to be released to the markets as soon as transport logistics allow. The availability of massive amounts of discounted crude looking for a home also acted as a general dampening factor for oil prices.



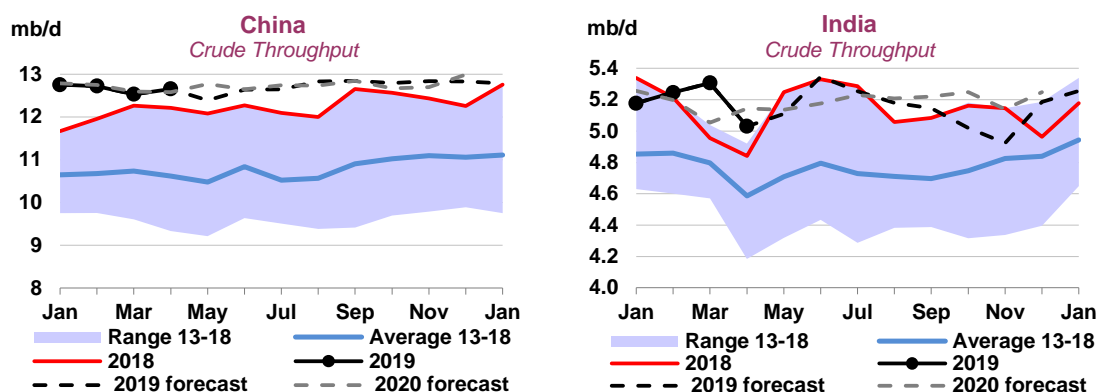
In **France**, strikes in May and June are almost a certain seasonal occurrence, and this year was not an exception. Exxonmobil's Fos refinery in the south was preparing to shut down in early June due to strike action. Elsewhere in the Mediterranean region, **Turkey's** most recent refining addition, the STAR complex, reported reached full run rates in May. The country's throughput is expected to increase by 170 kb/d in 2019, but this will be largely offset by declines in the wider European region, resulting in only 20 kb/d of growth in OECD Europe's throughput in 2019.



In **Japan**, crude runs in January-April declined 80 kb/d y-o-y, similar to the trend in 2018. We expect further declines in 2020 due to decreasing domestic demand and competition from other Asian refiners. Even **South Korean** refiners, where petrochemical integration normally acts as a shield against increasingly crowded transport fuel markets, have come to feel the pressure, as the country's largest refining group, SK, announced run cuts in May.

Non-OECD refinery throughput

Our 2Q19 estimate for non-OECD refinery intake is unchanged as an upward revision for April was offset by lower May numbers. March data updates showed throughput growth slowing to just 240 kb/d y-o-y, from 750 kb/d in April. For 2019 as a whole, growth is expected at 0.5 mb/d. The United Arab Emirates reported 2018 throughput data to JODI for the first time, resulting in a downward revision to our historical estimate of non-OECD throughput.

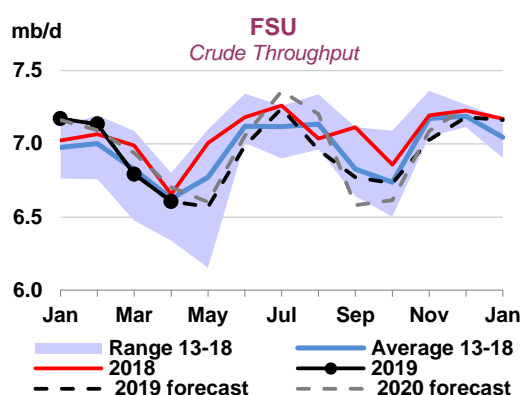
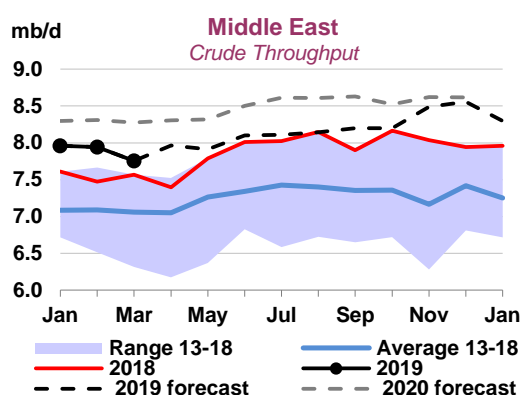


Despite forecasts of heavy maintenance in April, **Chinese** throughput was at a record level of 12.6 mb/d, up by 440 kb/d y-o-y. The independent Hengli refinery reportedly reached full run rates in May, although it is not clear how it manages its fuel sales in the absence of a product export licence. Announced refinery outages in May total a record 1.9 mb/d, but we expect only a 270 kb/d slowdown in the month, using throughput estimates from Chinese consultancy SCI. By end-2020, China is expected to add another 1.5 mb/d of new capacity, of which state-owned majors account for only 400 kb/d. Apart from

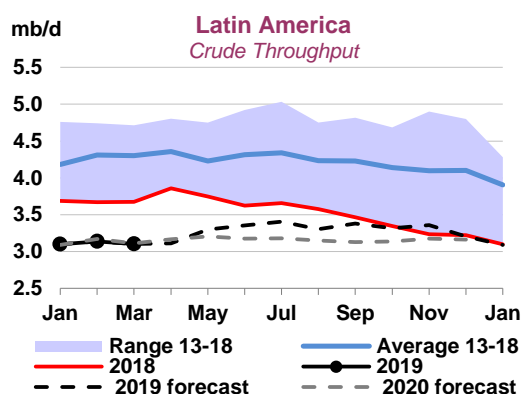
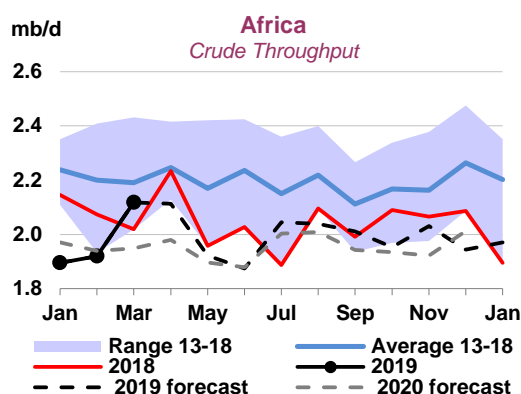
Zhejiang Petrochemical's 400 kb/d facility, independents are adding another 500 kb/d in smaller projects.

Indian throughput in April fell 280 kb/d m-o-m, but it was up 190 kb/d y-o-y. By end-2020, refiners are expected to add only a modest 120 kb/d of capacity in two expansion projects, and the potential for further growth remains limited. Elsewhere in Asia, two new refineries are expected to come online in the same period: Hengyi Petrochemical's 150 kb/d refinery in Brunei and the 300 kb/d Petronas/Saudi Aramco joint venture in Malaysia.

The **United Arab Emirates** reported for the first time 2018 data, which came in 100 kb/d lower than our estimate. The 65 kb/d condensate splitter at Jebel Ali is expected to come online in the second half of 2020. In **Saudi Arabia**, March throughput was 275 kb/d lower m-o-m as forecast, and our May estimate was revised lower by 180 kb/d, to 2.6 mb/d, on an announced turnaround at the 400 kb/d SAMREF refinery. We expect the Jazan refinery to start commercial operations in 4Q19.



Russian throughput in May was flat versus April on continued maintenance, with runs 350 kb/d down y-o-y. Refiners might be gearing to process some of the contaminated Urals barrels pumped back from the Druzhba pipeline. Most of them are owned by vertically integrated oil companies that ship export barrels through Druzhba and will be primary recipients of claims from their customers on the pipeline. Rosneft announced in June that it received \$155 million in damage claims from Belneftekhim, the owner of **Belarus's** two refineries. The larger one, Mozyr, is reportedly running at normal utilisation rates, while Naftan is still suffering from a lack of on-specification crude supply.



Throughput in Latin America continues to show large y-o-y declines, with a loss of about 500 kb/d in 2Q19. The impact of lower Venezuelan runs is augmented by closures in Trinidad and Curaçao. In our latest assessment, however, we revised up **Venezuelan** intake to 180 kb/d based on news reports. In Brazil, April throughput increased by a modest 70 kb/d m-o-m, almost flat y-o-y.

Updated African data show March runs sharply higher m-o-m, due to 100 kb/d increases in **Algeria** and **Egypt**. Runs were higher y-o-y for the first time in 2019, however, we forecast annual declines for the year as a whole. Cameroon's sole refinery suffered a severe fire outage in late May and will be offline for at least a year.

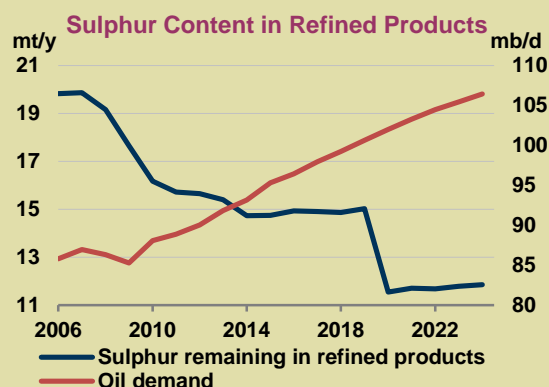
The Future of Hydrogen

On 14 June IEA released *The Future of Hydrogen – seizing today's opportunities*, discussing the role of hydrogen in today's energy system and its future potential. Hydrogen offers ways to decarbonise sectors where it is proving difficult to reduce emissions – long-haul transport, chemicals and iron and steel. It can also help improve air quality and strengthen energy security. It is one of the leading options for storing energy from renewables, through electrolysis of water, as the availability of solar PV and wind, for example, is not always well-matched with demand. Hydrogen and hydrogen-based fuels can transport energy generated from renewables over long distances – from regions with abundant solar and wind resources. While the future of hydrogen as an energy source depends on policy drivers, technology advances and costs, it already is an integral part of the energy system through its role in oil refining and chemical production.

Refineries consume about 38 million (mn) tonnes of hydrogen a year as feedstock, reagent and energy source in hydrotreatment and hydrocracking, accounting for half of global pure hydrogen demand. Hydrotreatment is frequently referred to as hydrodesulphurisation, but is also involves the removal of nitrogen, oxygen and metals for product quality purposes, but also to avoid damage to refinery equipment and catalysts in further processing. Hydrogen also acts as feedstock, saturating aromatic and olefinic compounds in hydrocracking. A proportion of hydrogen input into hydrotreatment unit exits in the waste gases stream, ending up as refinery fuel. Sulphur content in final products is one of the most tightly regulated specifications. On average, refiners remove about 70% of naturally occurring sulphur in crude oil. To meet the requirement of the IMO bunker fuel specifications change, from 2020 refineries will need to remove close to 80% of sulphur, resulting in even higher hydrogen consumption in refineries.

Refineries not only use, but also produce hydrogen, as a by-product of catalytic naphtha reforming. Petrochemical processes, such as cracking and dehydrogenation, also yield by-product hydrogen, which offers yet another benefit of refining-petrochemical integration. On average, refinery by-product hydrogen only provides a third of total hydrogen requirement. The gap in the refinery's hydrogen balances is filled by either dedicated hydrogen production or from merchant suppliers of industrial gases. Hydrogen production and/or acquisition is an important cost component for refineries, and can play a defining role in a refinery's competitiveness. Dedicated hydrogen production mostly comes from steam methane reforming. Partial oxidation of heavier feedstocks, such as petroleum coke or coal, is also used in natural gas deficit regions such as India and China. In China, coal gasification is still routinely included in new refinery setups as a main or auxiliary hydrogen production unit. The merchant supply of hydrogen is an option in densely industrialised areas where developed hydrogen pipeline infrastructure exists, such as the US Gulf Coast and Europe's Amsterdam-Rotterdam-Antwerp hub.

The use of natural gas and coal for hydrogen production for refineries results in 230 mn tonnes of CO₂ emissions a year, about 20% of total refining sector emissions. To reduce or eliminate emissions, refineries would need to equip hydrogen production facilities with carbon capture equipment or use electrolytic hydrogen from renewable energy sources. Shell's Pernis refinery in the Netherlands and Idemitsu Kosan's Hokkaido site in Japan have installed CCUS equipment. For the moment, no refineries are using electrolytic hydrogen, but Shell's Rheinland refinery in Germany has announced a 10 MW electrolyser project, that could supply just 1% of its needs. Heide, a private-equity owned German refinery, announced a 30 MW electrolyser paired with offshore wind power to replace purchases of up to 3 kt of hydrogen a year. Despite this progress, policy support is going to be needed if electrolysis is to take off at scale.

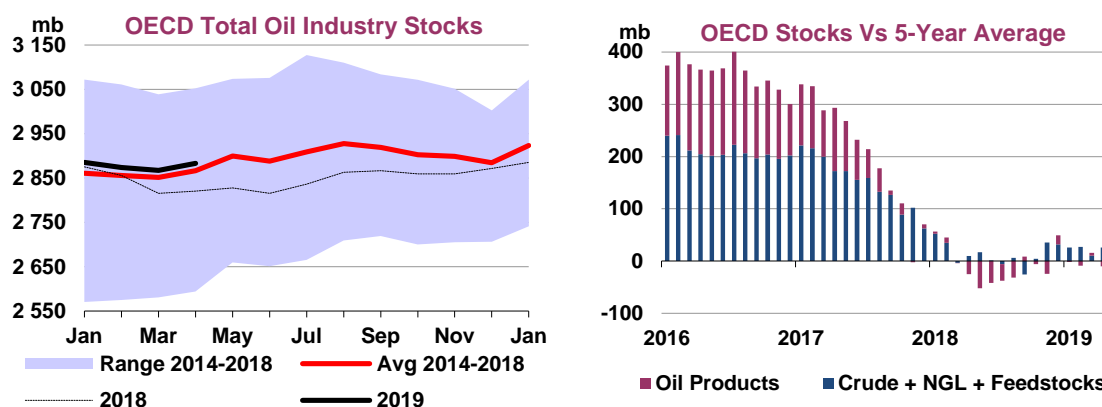


STOCKS

Summary

OECD industry stocks rose by 15.8 mb month-on-month (m-o-m) in April to 2 883 mb and now stand at almost the same level as at the beginning of 2019. The gain was in line with the five-year average of 15.2 mb for the month. Total stocks remain 16.3 mb above the five-year average, but on a forward demand basis, they are below it, by 1.6 days, at 59.9 days.

Crude stocks increased 12.8 mb in April, significantly more than the usual build of 0.3 mb, to reach 1 134 mb, the highest level since November 2017. The OECD Americas region led the builds by adding 16.8 mb due to lower US crude exports and refinery throughputs while crude inventories in OECD Europe and Asia Oceania drew by 1.4 mb and 2.7 mb, respectively. Stocks of oil products fell by 7 mb in contrast to the five-year average builds of 8.1 mb for the month. Gasoline inventories declined by 12.9 mb in total with all three regions showing larger than the average decreases. Middle distillates declined by 10.2 mb compared with a normal increase of 3.9 mb. Other products, however, increased by 17.9 mb, twice as much as usual owing to large builds in the OECD Americas.



Preliminary data for May are mixed: inventory builds were seen in the US and Japan, while stocks fell in Europe. US total oil inventories increased by a very significant 51.1 mb, or 1.6 mb/d. This is because of a counter-seasonal crude stocks increase of 13.8 mb linked to higher crude oil imports and larger than normal builds in oil products driven by higher m-o-m refinery runs. Japanese preliminary data also indicate stock builds of 8.8 mb as a whole. European stocks, on the other hand, decreased by 1.5 mb in total. A decrease of 7.6 mb product inventories due to lower refinery throughput offset 6.1 mb crude stock builds.

March OECD figures were revised up and so we have amended our 1Q19 stock changes in this *Report*. OECD commercial stocks decreased by 2.5 mb in 1Q19, mainly due to draws in the OECD Americas amid high crude exports. Outside the OECD, crude and NGL stocks for 15 countries reporting their figures to JODI increased 13.3 mb while oil products inventories showed a 30.2 mb decrease. Seaborne oil in transit volume changes in 1Q19 fell by 30 mb according to the latest available data from *Refinitiv*. The implied crude stock builds in China, Fujairah and Singapore were unchanged. The revised data implies a global stock build of 30.4 mb (340 kb/d) in 1Q19, which is 14.6 mb higher than our previous estimate.

1Q19 v 4Q18 Stock Estimate (Revised)

	mb	mb/d
OECD Americas	-30.8	-0.3
OECD Europe	48.0	0.5
OECD Asia Oceania	-19.8	-0.2
Total OECD Commercial Stocks	-2.5	0.0
OECD Government Stocks	4.2	0.0
Oil in Transit incl. Floating Storage (Refinitiv)	-30.0	-0.3
Non-OECD Crude (JODI)	13.3	0.1
Non-OECD Products (JODI)	-30.2	-0.3
Fujairah (FEDCom/S&P Global Platts)	6.1	0.1
Singapore (International Enterprise)	0.5	0.0
Total excl. China Balance	-38.8	-0.4
China Crude Balance	69.2	0.8
Total	30.4	0.3

Preliminary Industry Stock Change in April 2019 and First Quarter 2019

	April 2019 (preliminary)				First Quarter 2019			
	(million barrels)				(million barrels per day)			
	Am	Europe	As. Ocean	Total	Am	Europe	As. Ocean	Total
Crude Oil	16.8	-1.4	-2.7	12.8	0.56	-0.05	-0.09	0.43
Gasoline	-7.2	-4.4	-1.3	-12.9	-0.24	-0.15	-0.04	-0.43
Middle Distillates	-4.1	-3.0	-3.0	-10.2	-0.14	-0.10	-0.10	-0.34
Residual Fuel Oil	-0.5	-1.9	0.5	-1.8	-0.02	-0.06	0.02	-0.06
Other Products	18.4	-0.7	0.2	17.9	0.61	-0.02	0.01	0.60
Total Products	6.5	-9.9	-3.7	-7.0	0.22	-0.33	-0.12	-0.23
Other Oils ¹	4.1	0.9	5.2	10.1	0.14	0.03	0.17	0.34
Total Oil	27.4	-10.4	-1.2	15.8	0.91	-0.35	-0.04	0.53

¹ Other oils includes NGLs, feedstocks and other hydrocarbons.

OECD stocks were revised up by 17.9 mb in March. The biggest adjustment was in the OECD Americas, particularly in the US, where crude stocks increased by 7.9 mb. Middle distillates and gasoline inventories were also revised up. February stock figures were also changed, in this case down by 1 mb.

Revisions versus May 2019 Oil Market Report

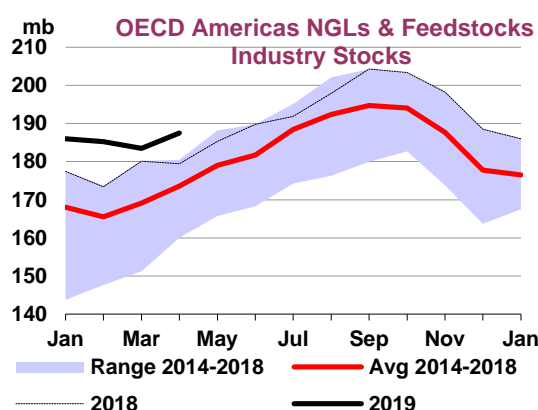
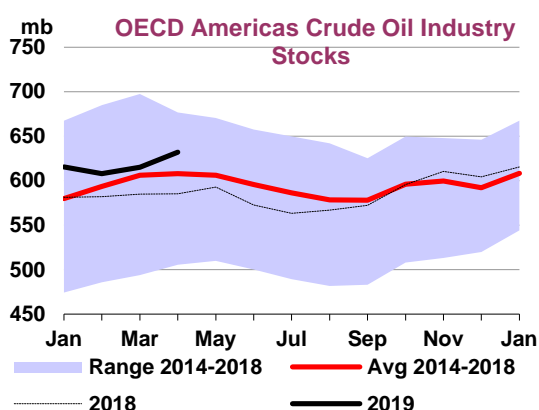
	(million barrels)							
	Americas		Europe		Asia Oceania		OECD	
	Feb-19	Mar-19	Feb-19	Mar-19	Feb-19	Mar-19	Feb-19	Mar-19
Crude Oil	2.2	9.8	0.1	8.5	0.1	-1.9	2.5	16.4
Gasoline	0.8	6.1	0.0	-3.8	0.0	0.8	0.8	3.2
Middle Distillates	1.5	8.9	-0.6	0.7	0.0	0.2	0.9	9.8
Residual Fuel Oil	-0.2	-0.9	0.0	-0.2	0.3	0.1	0.1	-1.1
Other Products	1.0	-0.7	0.0	0.3	0.0	0.1	0.9	-0.3
Total Products	3.1	13.4	-0.6	-3.0	0.3	1.2	2.7	11.7
Other Oils ¹	-6.3	-10.3	0.1	0.0	0.0	0.2	-6.2	-10.2
Total Oil	-1.0	12.9	-0.4	5.5	0.4	-0.4	-1.0	17.9

¹ Other oils includes NGLs, feedstocks and other hydrocarbons.

Recent OECD industry stock changes

OECD Americas

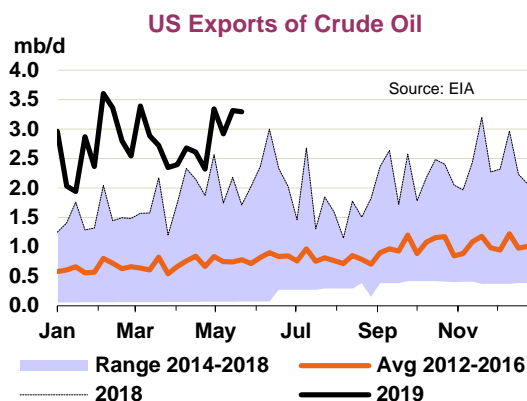
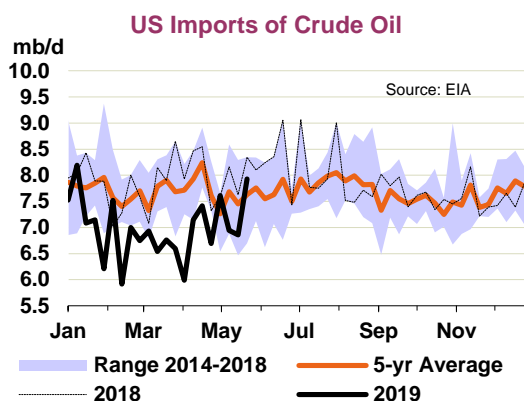
Industry stocks in the OECD Americas gained in April by 27.4 mb m-o-m to 1 536 mb. They were 41.9 mb above the five-year average but one day below by the forward demand metric. The increase was more than twice as much as the five-year average gains of 12.7 mb due to large crude stock builds.



Crude inventories increased by 16.8 mb and reached 632 mb, the highest since July 2017. US crude exports fell around 370 kb/d m-o-m to approximately 2.5 mb/d in April. Mexican crude stocks also gained counter-seasonally by 1.6 mb.

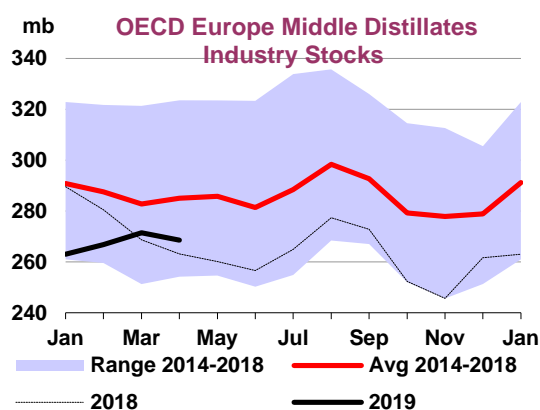
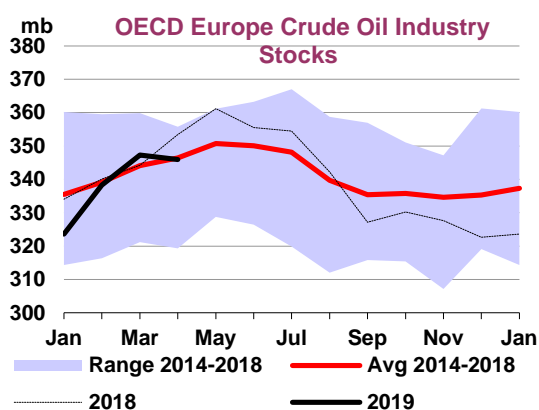
As for product stocks, gasoline (-7.2 mb) and middle distillates (-4.1 mb) fell more than usual mainly due to lower refinery throughput in the US. Fuel oil decreased by 0.5 mb in line with the average. In contrast, in the other products category (largely US LPG), stocks gained by 18.4 mb. The gain was greater than the average of 10.1 mb amid warmer temperatures in North America.

Preliminary May data from the *Energy Information Administration* show both US crude and product stocks increasing due to relatively high crude oil imports of 7.2 mb/d. Crude inventories gained by 13.8 mb, or nearly 450 kb/d. Total oil product stocks increased by even more at 37.3 mb, or over 1.2 mb/d. The main components were: other oils (+16.5 mb), propane (+9 mb), gasoline (+7.6 mb) and diesel (+4.4 mb).



OECD Europe

Commercial holdings in OECD Europe decreased by 10.4 mb m-o-m to 968 mb at the end of April, in contrast to the typical stock increase seen at this time of year. There were large draws in oil products: 9.9 mb in total with decreases seen in gasoline (-4.4 mb) and fuel oil (-1.9 mb). Middle distillates and other fuel fell counter-seasonally by 3 mb and 0.7 mb, respectively.

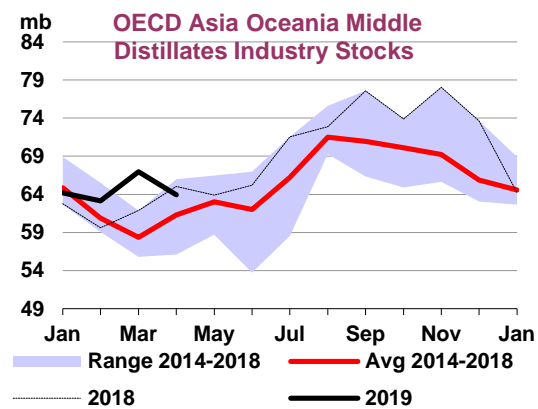
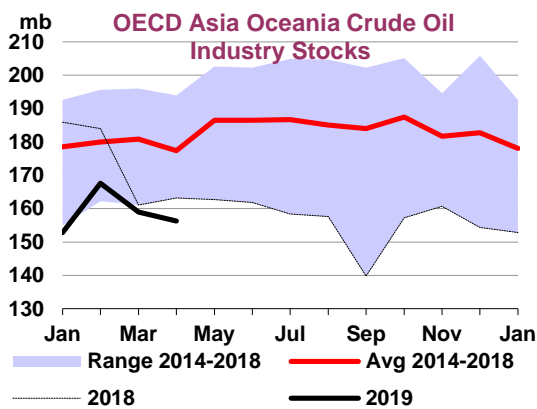


Preliminary data from *Euroilstock* showed inventories falling by 1.5 mb m-o-m in May due to draws in middle distillates (-6.9 mb), gasoline (-1.3 mb) and fuel oil (-0.3 mb). These declines are attributable to lower refinery runs in the region. Increased crude stocks (6.1 mb) and other products (0.9 mb, mainly naphtha) partly offset the decline observed in oil products.

OECD Asia Oceania

In April, total commercial stocks in OECD Asia Oceania fell counter-seasonally by 1.2 mb m-o-m to 378 mb. Stocks stood 23.8 mb below the five-year average. Crude inventories decreased by 2.7 mb,

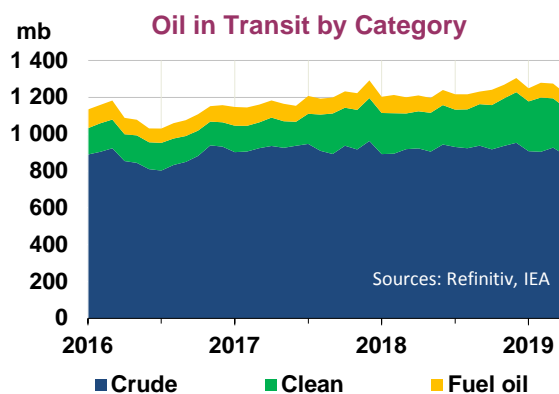
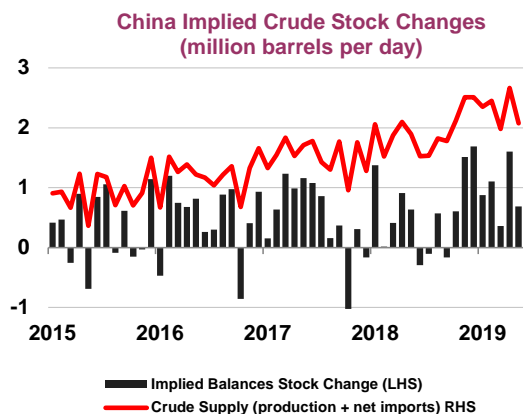
largely in line with the usual movement. NGL and feedstocks gained by 5.2 mb. In contrast, oil products dropped by 3.7 mb: middle distillates and gasoline fell by 3 mb and 1.3 mb respectively. These counter-seasonal draws are attributable to lower refinery throughputs in Japan. Fuel oil gained by 0.5 mb and other oil rose 0.2 mb.



Preliminary data for May from the *Petroleum Association of Japan (PAJ)* show total stocks rising by 8.8 mb m-o-m, in line with the five-year average. Crude stocks gained more than usual, by 6.7 mb. Total products increased by 3 mb with larger builds in middle distillates (+2.1 mb) and other products (+1 mb). Motor gasoline fell by mere 0.1 mb counter-seasonally. Residual fuel stood at the same level.

Other stock developments

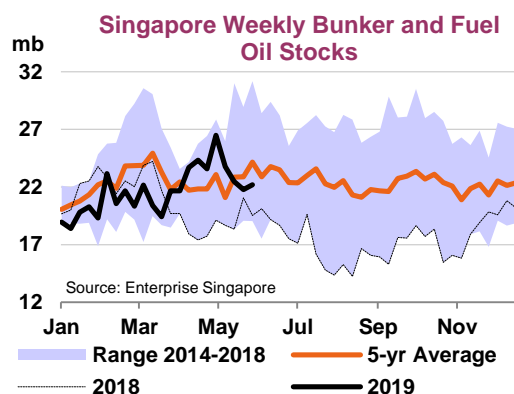
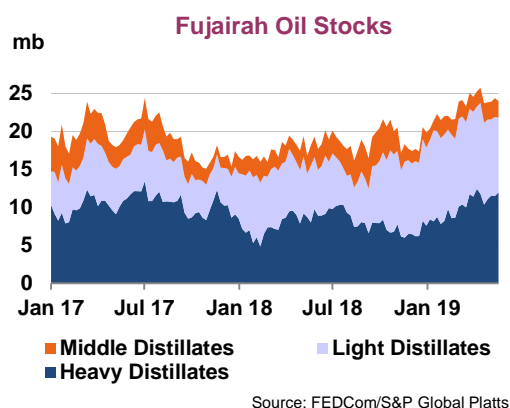
Chinese implied crude stocks built by 21.3 mb (690 kb/d) in May according to figures derived from estimated crude production, refinery runs and customs crude import data. Monthly crude oil imports fell from their record high of 10.6 mb/d in April to 9.4 mb/d in May but this still implies a large crude inventory build.



Seaborne oil in transit volumes fell in 1Q19 by 30 mb (335 kb/d), figures based on the latest *Refinitiv* data and IEA calculations show, due to lower crude exports from Saudi Arabia, Russia and other signatories to the OPEC+ agreement.

Oil stocks in major bunkering hubs declined in May. Stocks at Fujairah fell by 1.3 mb to 24.2 mb after building for four months, according to data from *FEDCom* and *S&P Global Platts*. Light distillates decreased by 1.7 mb and stood at 10.1 mb. In contrast, both middle and heavy distillates gained by 0.2 mb. Oil product inventories in Singapore declined by 2.9 mb to 44.9 mb at the end of May, according to the data from *Enterprise Singapore*. Light distillates and residues fell by 2.3 mb and 1.8 mb,

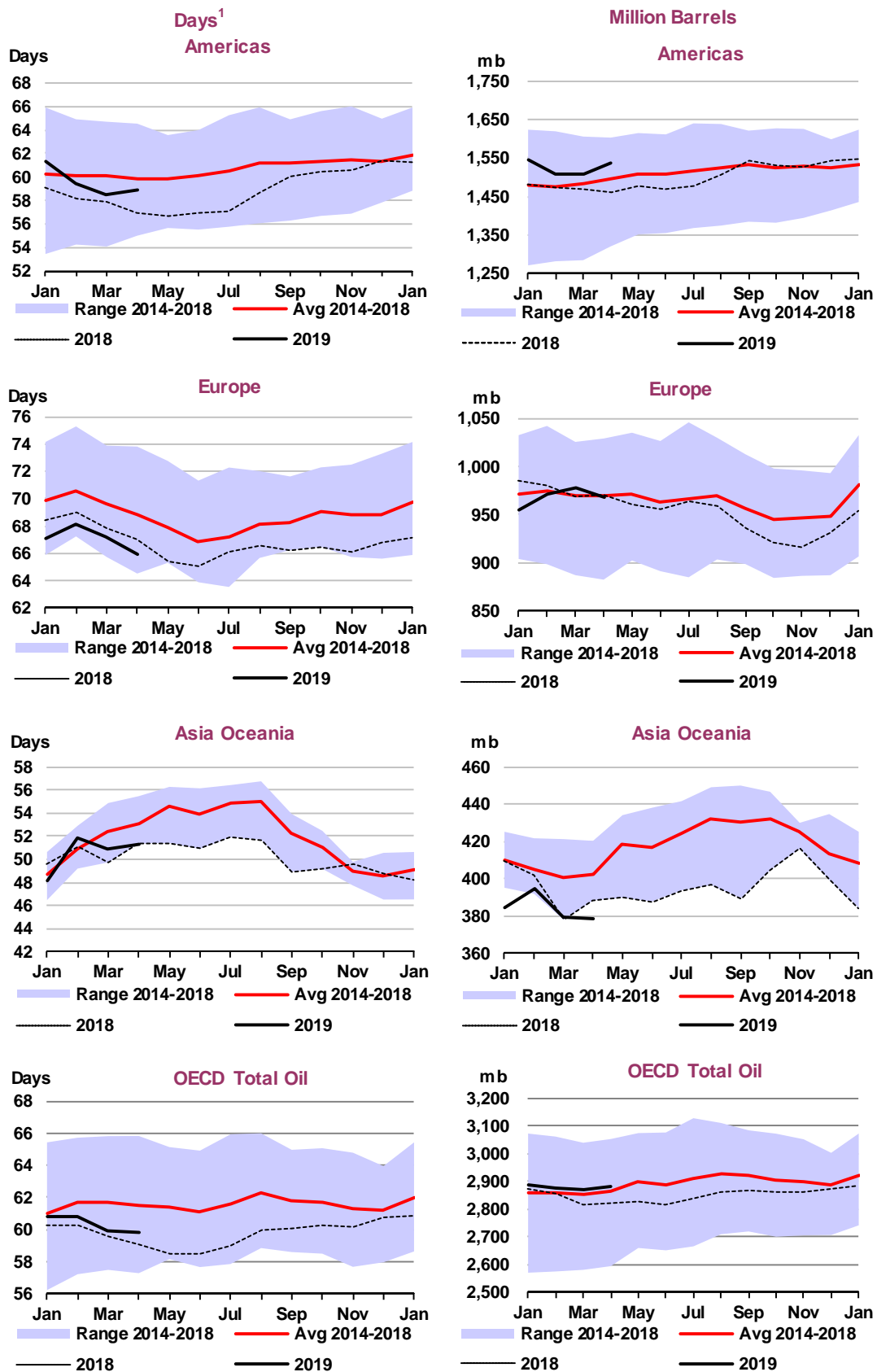
respectively. Light distillates stood at 11.3 mb, which is the lowest level since September 2018. Middle distillates, on the other hand, gained 1.2 mb.



Stockpiles in the 23 non-OECD countries covered by the JODI database fell 26.2 mb m-o-m in March to 692 mb. Saudi crude stocks declined by 3.6 mb in March, by contrast, Nigeria and Chinese Taipei gained 8.2 mb and 2.9 mb respectively. For products, Nigeria showed a large contraction of 34.9 mb.

Regional OECD End-of-Month Industry Stocks

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

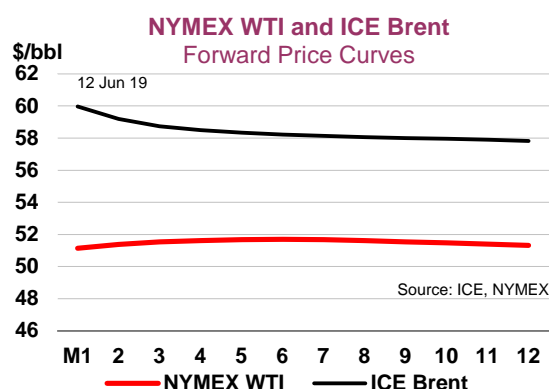
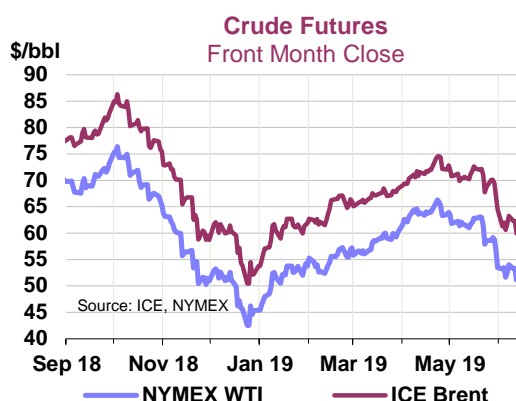


1 Days of forward demand are based on average demand over the next three months

PRICES

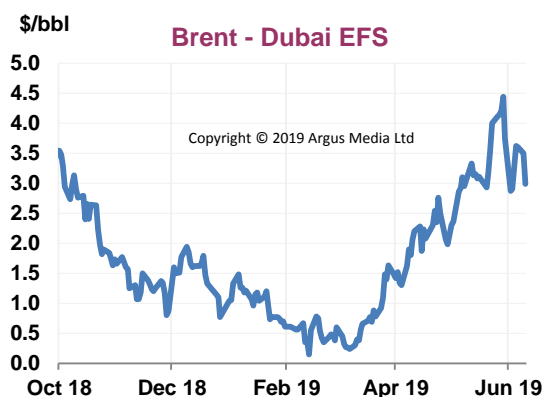
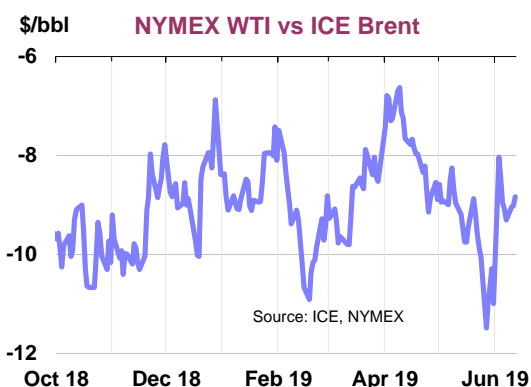
Market overview

Benchmark crude oil prices have been on a downward trend since hitting five-month highs in late April. In May, ICE Brent and NYMEX WTI declined by \$1.33/bbl and \$3.00/bbl, respectively, despite supply concerns and geopolitical tensions. Market sentiment is more focused on the risk of a slowdown in the global economy and trade. Furthermore, while outages in the North Sea have hampered supplies, market participants are comforted by growing US production, ample OPEC spare capacity and progress in resolving the problems arising from the contamination of Urals flowing through the Druzhba pipeline system. In the last week of May, Brent and WTI plunged to their lowest levels since January and are down by 20% from the April peak.



Futures markets

The ICE Brent forward curve remains in backwardation, with oil for delivery in August 2019 priced \$2.14/bbl above that to be delivered 12 months out, reflecting the view that current market tightness is expected to ease. The backwardation is shallower than a month ago, when the premium of prompt barrels over those delivered in 12 months' time rose to \$5.06/bbl. This was linked to the short-term supply disruption caused by the curtailment of flows on the Druzhba pipeline. With ongoing tightness in sour crude markets, the Dubai futures curve remains in steep backwardation and prompt prices maintained their relatively narrow discount to Brent of \$0.80/bbl. Meanwhile, the WTI futures curve is in narrow contango for the first four months, although barrels delivered in 12 months are trading at a small discount to front-month prices.



Already priced at a wide discount to Brent, WTI was further pressured by events at the pricing point in Cushing where heavy rain and flooding impeded upstream and refining activity. The Brent-WTI spread widened by \$1.67/bbl month-on-month (m-o-m) and at \$11.48/bbl on 27 May the WTI discount was the largest since 2015.

Strong demand from refiners returning from the spring maintenance season boosted the Brent-Dubai EFS which gained \$1.33/bbl m-o-m, and hit \$4.44/bbl in late May, a 13-month high. This reduced the competitiveness of Brent-linked crude in Asia Pacific markets.

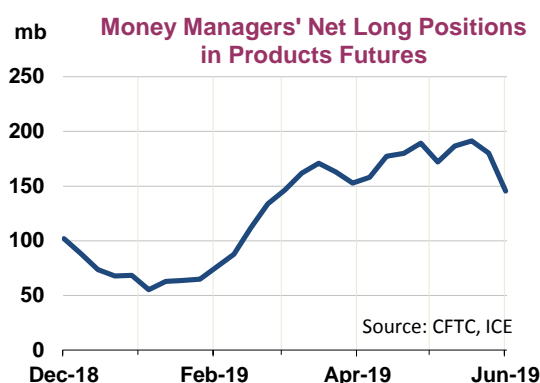
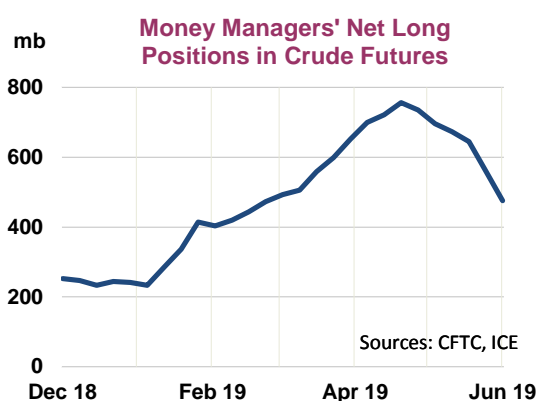
Prompt Month Oil Futures Prices

(monthly and weekly averages, \$/bbl)

	Mar	Apr	May	May-Apr Avg Chg	% Chg	Week Commencing:				
						06 May	13 May	20 May	27 May	03 Jun
NYMEX										
Light Sweet Crude Oil	58.17	63.87	60.87	-3.00	-4.7	61.83	62.09	60.81	57.01	53.00
RBOB	77.90	85.59	83.06	-2.54	-3.0	83.03	84.52	82.89	79.62	72.28
ULSD	83.60	86.55	85.44	-1.12	-1.3	86.15	87.38	85.14	81.03	75.78
ULSD (\$/mmbtu)	14.74	15.27	15.07	-0.20	-1.3	15.19	15.41	15.02	14.29	13.36
Henry Hub Natural Gas (\$/mmbtu)	2.81	2.60	2.59	-0.01	-0.4	2.58	2.63	2.60	2.55	2.37
ICE										
Brent	67.03	71.63	70.30	-1.33	-1.9	70.50	71.61	70.32	68.21	61.77
Gasoil	82.00	84.47	84.70	0.23	0.3	85.32	87.20	84.33	81.11	74.21
Prompt Month Differentials										
NYMEX WTI - ICE Brent	-8.86	-7.76	-9.43	-1.67		-8.67	-9.52	-9.51	-11.20	-8.77
NYMEX ULSD - WTI	25.43	22.68	24.57	1.88		24.32	25.29	24.33	24.02	22.78
NYMEX RBOB - WTI	19.73	21.72	22.19	0.46		21.20	22.43	22.08	22.61	19.28
NYMEX 3-2-1 Crack (RBOB)	21.63	22.04	22.98	0.94		22.24	23.38	22.83	23.08	20.45
NYMEX ULSD - Natural Gas (\$/mmbtu)	11.94	12.66	12.48	-0.19		12.62	12.78	12.41	11.74	10.99
ICE Gasoil - ICE Brent	14.97	12.84	14.40	1.56		14.82	15.59	14.01	12.90	12.44

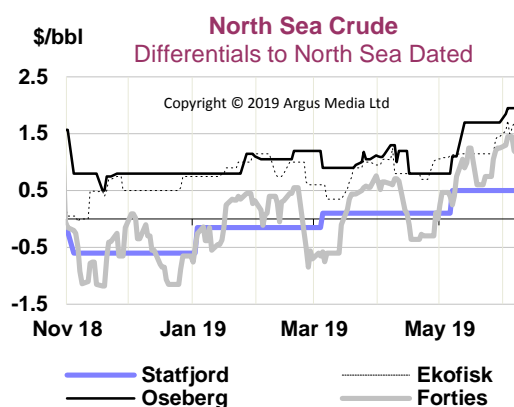
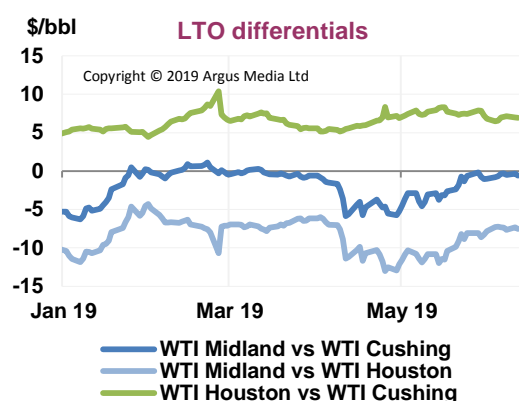
Source: ICE, NYMEX.

Hedge funds intensified the sell-off of net long positions in crude oil futures that started at the end of April. Net length was 475 mb in early June, down 30% from one month earlier. Money managers' net length in product futures dropped by 35 mb to 145 mb in the first week of June, predominantly due to a sell-off of speculative bets that the price of ICE gasoil futures would increase. This was the first weekly reduction in ICE gasoil futures net length since early-April. Net length in NYMEX RBOB futures has declined for the past five weeks and was 83 mb in early June.

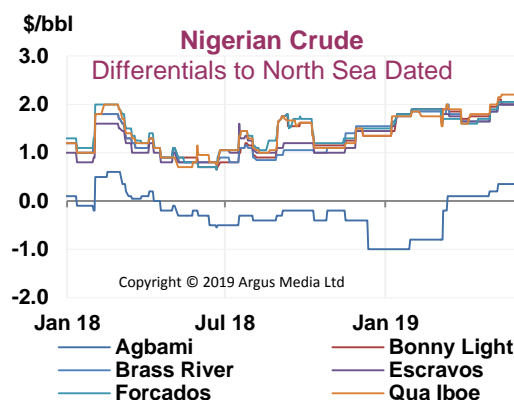
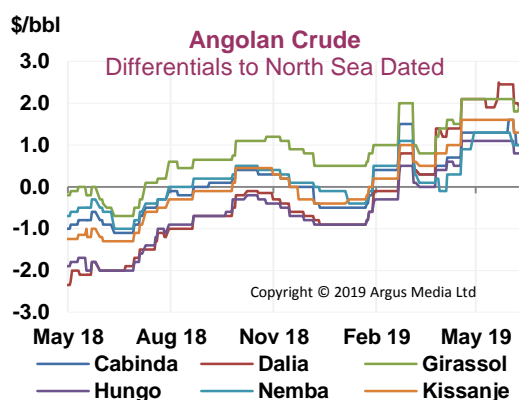


Spot crude oil prices

Flooding in the US midcontinent caused the temporary shut-in of some pipelines that transport crude into and out of Cushing and WTI priced at the hub fell by \$3.03/bbl on average in May. WTI priced in the Permian basin narrowed its discount to WTI Cushing by \$4.25/bbl over the month as Plains All American began line-fill for its Cactus 2 pipeline which, when fully operational next year, will provide an additional 1 mb/d of export capacity from the region. WTI Houston gained \$1.55/bbl m-o-m against Cushing on an increase in demand from European refiners looking to replace production lost from the North Sea due to maintenance in the coming months. The Western Canada Select discount to WTI increased to \$17.30/bbl at the end of May, the widest since government-mandated cuts were introduced at the start of 2019. Output continues to run against export pipeline and storage constraints but the wider discount may encourage rail exports, which are more expensive, and demand should pick up as US refiners complete maintenance.



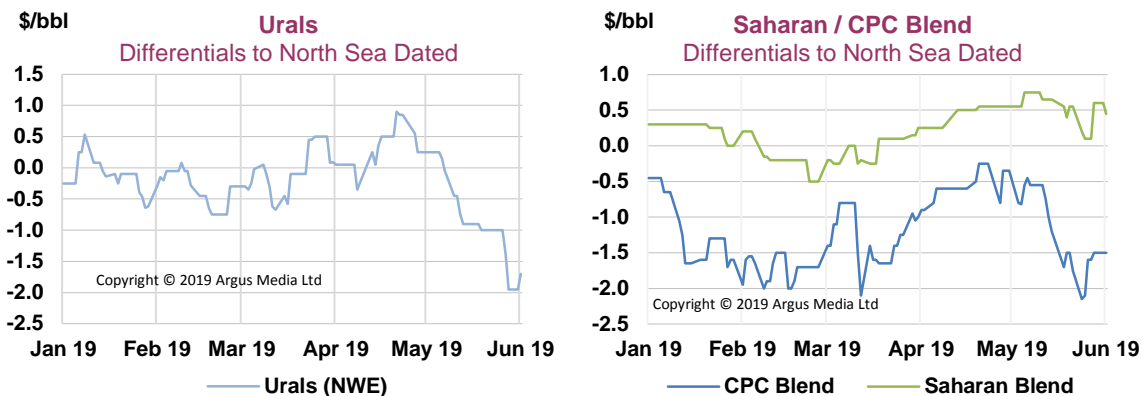
Several factors contributed to North Sea crude differentials increasing in May. Forties climbed to a six-year high against North Sea Dated with strong demand from European refiners looking to replace contaminated Urals. A number of unplanned outages in Norway, combined with heavy maintenance at the Ekofisk field, reduced the availability of supplies. Ekofisk and Oseberg gained \$0.29/bbl and \$0.41/bbl, respectively, against North Sea Dated.



Differentials for West African crude gained for the third consecutive month in May as regional grades saw strong demand to replace Iranian and Venezuelan supplies in Asia Pacific and the US. This came as loading programmes indicated that Angolan exports would decline in June. Having reached a record high in April, the differential for Dalia climbed further, to \$2.45/bbl above North Sea Dated, as loading programmes showed that exports would decline by 25% m-o-m in July. Differentials for Nigerian crude rose in May, with healthy European gasoline margins supporting demand and as supply from the North

Sea tightened. Qua Iboe gained \$0.38/bbl m-o-m and Forcados was up \$0.36/bbl m-o-m, respectively, against North Sea Dated.

In early May, the disruption to Urals exports due to pipeline contamination caused seaborne Urals in North West Europe to reach a premium of \$0.90/bbl to North Sea Dated, the highest since *Argus* began reporting the price assessment in 1994. Prices swiftly receded as the disruptions were partially resolved and Urals is currently trading at an almost \$2.00/bbl discount, the widest since October 2018, despite the persistent tightness of sour crude markets that has supported the grade in recent months.



The early return of production from Kashagan following maintenance pressured CPC Blend in May. Its discount to North Sea Dated widened by \$1.50/bbl over the month having been at \$0.25/bbl, the narrowest since June 2018. Saharan Blend gained \$0.32/bbl m-o-m, against North Sea Dated, thanks to strong demand.

Spot crude oil prices and differentials

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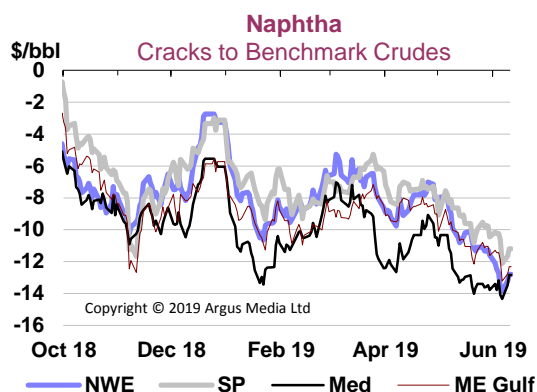
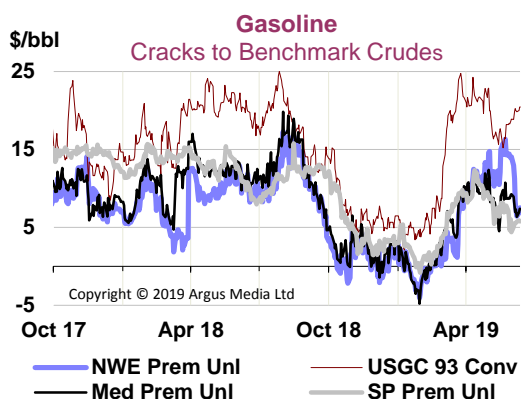
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The differentials for crude from the Middle East gained in May due to tighter supply thanks to strong compliance with OPEC cuts and robust demand from Asian refiners returning from maintenance. Murban's premium to Dubai rose to \$0.95/bbl in mid-May, the highest since December 2015, although it has since fallen back. Oman and Upper Zakum gained by \$1.22/bbl and \$0.35/bbl m-o-m, respectively, against Dubai and the steep backwardation of the Dubai futures curve is indicative of healthy prompt demand.

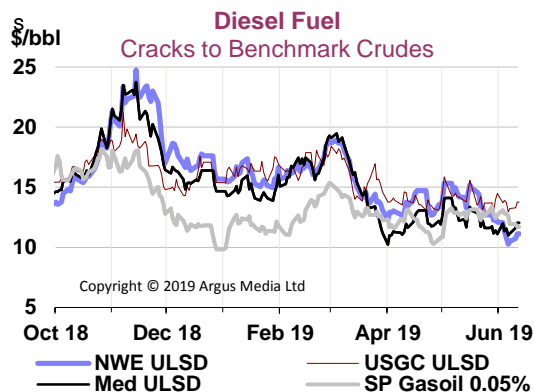
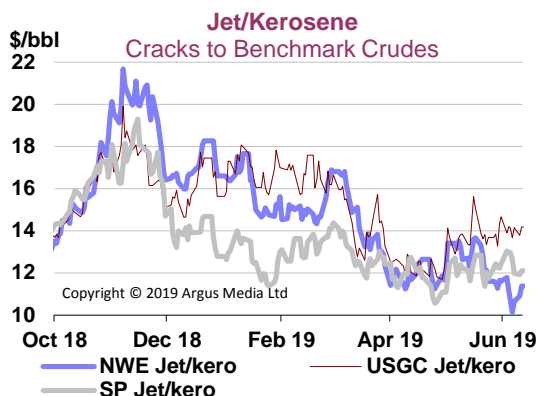
Spot product prices

Global gasoline markets diverged in May. In North West Europe, supplies tightened due to refinery shutdowns and reduced runs following the closure of the Druzhba pipeline. Robust regional demand boosted the price of premium unleaded in Rotterdam by \$2.37/bbl m-o-m against North Sea Dated. Conversely, gasoline cracks fell in the Mediterranean, the US and Asia Pacific. In the US, cracks have retreated from recent highs close to \$25/bbl as refinery output ramps up following maintenance and outages, while demand is lacklustre. In Singapore, the price of premium unleaded fell by \$4.47/bbl in May with increased supplies to the Asia Pacific region, in particular from China with new refineries ramping up and weak domestic demand leaving abundant volumes for export.



Global naphtha markets softened for the third month in a row with cracker maintenance in North West Europe and Asia dampening demand. Some blending demand provided support to cracks in Rotterdam, although overall these fell by \$1.78/bbl m-o-m. In Singapore, cracks were down \$1.80/bbl with LPG gaining market share thanks to its competitive price.

Jet markets rallied in May, following the decline in cracks in April. European jet fuel production was curtailed due to the Druzhba issues but demand has been slow to pick up ahead of the peak season and cracks gained by a modest \$0.76/bbl in Rotterdam. Refinery issues in the Philippines, India and Saudi Arabia tightened Asia Pacific supplies, but with the expectation of higher exports from China, cracks in Singapore gained by only \$0.47/bbl m-o-m.



Weak European agricultural demand capped gains for diesel in North West Europe, despite lower regional refinery output. Cracks for ultra low sulphur diesel in Rotterdam gained \$0.65/bbl m-o-m as Russian supplies declined, but there were increased imports from the US. On the US Gulf Coast, cracks gained \$0.49/bbl m-o-m as the impact of reduced supplies due to weather-related refinery outages

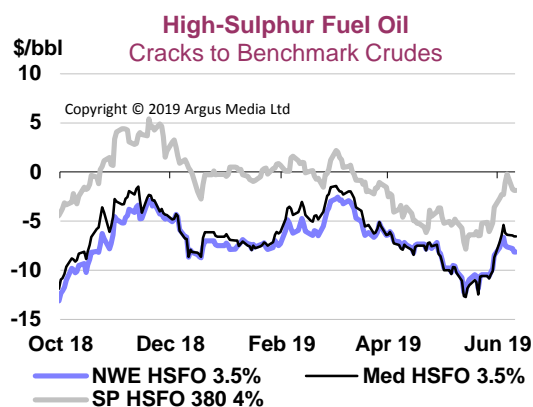
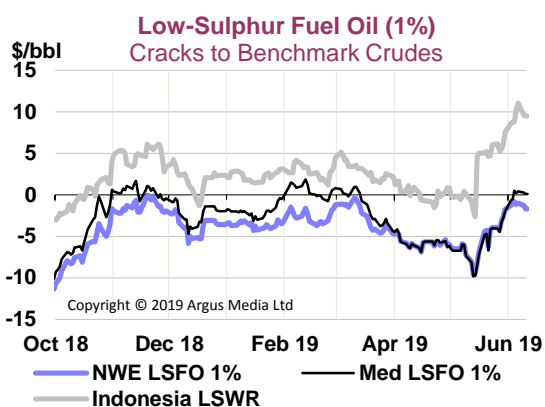
offset lower demand due to flooding. In Singapore, gasoil cracks gained by \$1.03/bbl on an unplanned outage in India. Looking ahead, increasing product supplies from China and an expected reduction in demand during the monsoon season could weigh on prices.

Spot product prices

Table Unavailable

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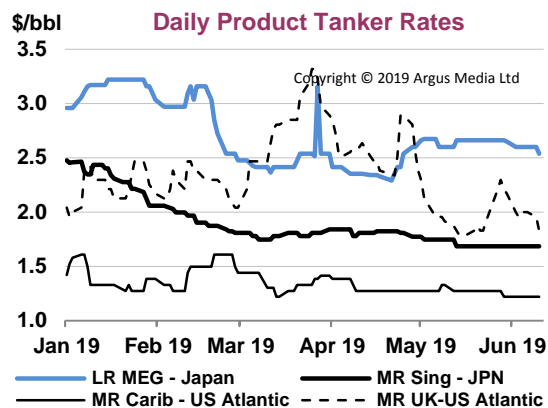
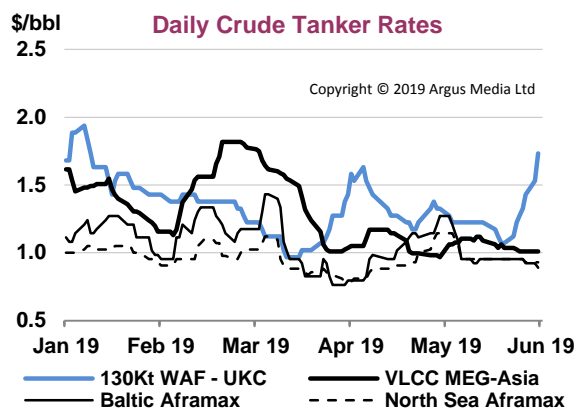
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Since falling to six-month lows in mid-May, global cracks for low sulphur fuel oil (LSFO) have rebounded by over \$10/bbl. Although down m-o-m, global HSFO cracks have also gained by \$5/bbl in recent weeks. Demand has already picked up from the Middle East and is likely to rise further as power generation usage increases in summer.

Freight

Rates for shipping crude on Very Large Crude Carriers (VLCCs) from the Middle East Gulf to Asia were flat in May. At just under \$0.98/bbl, a one-year low, they are very depressed as an ample supply of ships and declining exports from the Middle East continue to pressure rates. Plentiful ship availability was also the cause of a \$0.11/bbl m-o-m drop in Suexmaz rates. However, in early June rates rose by \$0.66/bbl as activity in the US Gulf Coast and Caribbean picked up. Some Baltic Aframaxes carrying contaminated crude from Russia were taken out of service and the resulting decline in ship availability, alongside healthy demand, boosted rates by \$0.17/bbl m-o-m.



Rates to ship products on Long Range (LR) tankers between the Middle East Gulf and Japan gained by \$0.25/bbl m-o-m, thanks to an uptick in demand. Stronger demand from West Africa in late May boosted rates for Medium Range (MR) vessels travelling between the UK and US Atlantic, although on average rates were down \$0.62/bbl m-o-m.

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	25.4	25.8	25.7	25.5	25.1	25.6	26.2	25.9	25.7	25.3	26.1	26.6	26.3	26.1
Europe	14.0	14.3	14.1	14.3	14.7	14.1	14.3	13.9	14.4	14.8	14.3	14.4	14.0	14.5	14.9	14.4	14.4
Asia Oceania	8.1	8.1	8.5	7.6	7.6	8.0	7.9	8.2	7.4	7.5	8.0	7.8	8.3	7.5	7.6	8.1	7.9
Total OECD	47.0	47.4	47.9	47.2	48.1	47.8	47.8	47.3	47.4	48.5	48.3	47.9	47.6	48.1	49.1	48.8	48.4
NON-OECD DEMAND																	
FSU	4.5	4.5	4.5	4.6	4.9	4.8	4.7	4.7	4.8	5.0	5.0	4.9	4.8	4.8	5.1	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	12.6	12.7	13.0	13.2	13.1	13.0	12.9	13.4	13.7	13.8	13.5	13.1	13.6	14.1	14.1	13.7
Other Asia	13.1	13.4	13.8	14.0	13.5	14.0	13.8	14.2	14.3	13.9	14.3	14.2	14.6	14.7	14.2	14.8	14.6
Americas	6.4	6.4	6.3	6.4	6.5	6.4	6.4	6.3	6.3	6.4	6.4	6.4	6.3	6.4	6.5	6.4	6.4
Middle East	8.5	8.5	8.2	8.5	8.8	8.2	8.4	8.2	8.6	8.9	8.3	8.5	8.2	8.6	8.9	8.3	8.5
Africa	4.3	4.3	4.3	4.3	4.2	4.3	4.3	4.4	4.4	4.2	4.4	4.4	4.5	4.4	4.3	4.4	4.4
Total Non-OECD	49.5	50.5	50.6	51.6	51.7	51.6	51.4	51.5	52.6	52.9	52.9	52.5	52.2	53.4	53.8	53.9	53.4
Total Demand¹	96.4	98.0	98.5	98.8	99.9	99.4	99.2	98.7	100.0	101.4	101.2	100.3	99.8	101.6	102.9	102.7	101.7
OECD SUPPLY																	
Americas	19.4	20.3	21.8	22.1	23.3	24.0	22.8	23.8	24.1	24.5	25.1	24.4	25.4	25.5	25.9	26.1	25.7
Europe	3.5	3.5	3.6	3.4	3.3	3.5	3.5	3.5	3.2	3.3	3.4	3.4	3.7	3.5	3.7	3.9	3.7
Asia Oceania	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.5	0.5	0.5	0.5	0.5	0.5	0.6	0.6	0.5
Total OECD ⁴	23.4	24.2	25.7	25.9	27.0	27.9	26.7	27.7	27.7	28.3	29.0	28.2	29.6	29.5	30.1	30.6	29.9
NON-OECD SUPPLY																	
FSU	14.2	14.3	14.4	14.4	14.6	14.8	14.6	14.8	14.4	14.5	14.7	14.6	14.8	14.8	14.7	14.8	14.8
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	3.9	3.9	3.9	3.9	3.9	3.9	3.8	3.9	3.9
Other Asia	3.6	3.5	3.4	3.3	3.3	3.3	3.3	3.3	3.2	3.2	3.2	3.2	3.2	3.1	3.1	3.1	3.1
Americas	4.5	4.5	4.5	4.5	4.4	4.6	4.5	4.5	4.7	4.9	5.0	4.8	5.1	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	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
Total Non-OECD ⁴	31.0	30.9	30.9	31.0	31.0	31.4	31.1	31.4	31.1	31.3	31.6	31.3	31.8	31.8	31.5	31.6	31.7
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	2.8	3.1	2.7	2.7	2.4	2.9	3.2	2.8	2.8
Total Non-OPEC Supply	59.1	59.9	61.1	62.0	63.4	64.2	62.7	63.6	64.0	65.0	65.7	64.6	66.1	66.5	67.2	67.4	66.8
OPEC²																	
Crude	32.4	32.0	31.7	31.6	32.0	32.2	31.9	30.6									
NGLs	5.4	5.5	5.5	5.5	5.5	5.5	5.5	5.6	5.6	5.6	5.6	5.6	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									
Total Supply	96.8	97.4	98.3	99.1	101.0	101.9	100.1	99.8									
STOCK CHANGES AND MISCELLANEOUS																	
Reported OECD																	
Industry	0.0	-0.4	-0.5	0.0	0.6	0.1	0.0	0.0									
Government	0.0	-0.1	0.1	-0.1	0.0	-0.2	-0.1	0.0									
Total	0.0	-0.5	-0.4	-0.1	0.5	-0.1	0.0	0.0									
Floating storage/Oil in transit	0.2	0.4	-1.0	0.3	-0.3	0.6	0.0	-0.3									
Miscellaneous to balance ⁵	0.2	-0.4	1.3	0.1	0.9	2.1	1.0	1.4									
Total Stock Ch. & Misc	0.4	-0.5	-0.2	0.3	1.1	2.5	0.9	1.1									

Memo items:

Call on OPEC crude + Stock ch.⁶ 31.9 32.6 31.9 31.3 31.0 29.6 30.9 29.5 30.5 30.8 29.9 30.2 28.1 29.4 30.1 29.7 29.3

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	-	-	-	-	-	-	-	-0.3	-0.1	-	-	-0.1					
Europe	-	-	-	-	-	-	-	-	-	0.1	-	-					
Asia Oceania	-	-	-	-	-	-	-	-	-0.1	-	-	-					
Total OECD	-	-	-	-	-	-	-	-0.3	-0.2	0.1	-	-0.1					
NON-OECD DEMAND																	
FSU	-	-	-	-	-	-	-	-	-	-	-	-					
Europe	-	-	-	-	-	-	-	-	-	-	-	-					
China	-	-	-	-	-	-	-	-	-0.1	0.1	0.1	-					
Other Asia	-	-	-	-	-	-	-	-	-0.1	-	-0.1	-					
Americas	-	-	-	-	-	-	-	-	-	-	-	-					
Middle East	-	-	-	-	-	-	-	-0.1	-	-	-	-					
Africa	-	-	-	-	-	-	-	-	-	-	-	-					
Total Non-OECD	-	-	-	-	-	-	-	-0.1	-0.1	0.1	-	-					
Total Demand	-	-	-	-	-	-	-	-0.4	-0.3	0.2	0.1	-0.1					
OECD SUPPLY																	
Americas	-	-	-	-	-	-	-	-	0.2	-	0.2	0.1					
Europe	-	-	-	-	-	-	-	-	-	-	-	-					
Asia Oceania	-	-	-	-	-	-	-	-	-	-	-	-					
Total OECD	-	-	-	-	-	-	-	-	0.1	-	0.1	0.1					
NON-OECD SUPPLY																	
FSU	-	-	-	-	-	-	-	-	-	-	-	-					
Europe	-	-	-	-	-	-	-	-	-	-	-	-					
China	-	-	-	-	-	-	-	-	-0.1	-	-	-					
Other Asia	-	-	-	-	-	-	-	-	-	-	-	-					
Americas	-	-	-	-	-	-	-	-	-	-	-	-					
Middle East	-	-	-	-	-	-	-	-	-	-	-	-					
Africa	-	-	-	-	-	-	-	-	-	-	-	-					
Total Non-OECD	-	-	-	-	-	-	-	-	-0.1	-0.1	-0.1	-0.1					
Processing gains	-	-	-	-	-	-	-	-	-	-	-	-					
Global Biofuels	-	-	-	-	-	-	-	-	-	-	-	-					
Total Non-OPEC Supply	-	-	-	-	-	-	-	-	0.1	-0.1	-	-					
OPEC																	
Crude	-	-	-	-	-	-	-	-	-	-	-	-					
NGLs	-	-	-	-	-	-	-	-	-	-	-	-					
Total OPEC	-	-	-	-	-	-	-	-	-	-	-	-					
Total Supply	-	-	-	-	-	-	-	-	-	-	-	-					
STOCK CHANGES AND MISCELLANEOUS																	
REPORTED OECD																	
Industry	-	-	-	-	-	-	-	0.2									
Government	-	-	-	-	-	-	-	-									
Total	-	-	-	-	-	-	-	0.2									
Floating storage/Oil in transit	-	-	-	-	-	-	-	0.2									
Miscellaneous to balance	-	-	-0.1	-0.1	-	-	-	-0.1									
Total Stock Ch. & Misc	-	-	-0.1	-0.1	-	-	-	0.3									
Memo items:																	
Call on OPEC crude + Stock ch.	-	-	0.1	0.1	-	-	-	-0.3	-0.4	0.3	-	-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	25.06	25.26	25.37	25.83	25.66	25.53	25.13	25.60	26.15	25.94	25.71	25.34	26.12	26.57	26.26	26.07
Europe	14.33	14.09	14.27	14.69	14.13	14.30	13.93	14.41	14.78	14.33	14.37	13.97	14.50	14.88	14.39	14.43
Asia Oceania	8.06	8.51	7.60	7.62	7.96	7.92	8.20	7.43	7.52	8.01	7.79	8.26	7.50	7.62	8.11	7.87
Total OECD	47.45	47.86	47.24	48.15	47.76	47.75	47.26	47.44	48.46	48.27	47.86	47.56	48.12	49.07	48.75	48.38
Asia	26.00	26.53	27.05	26.68	27.10	26.84	27.16	27.73	27.63	28.09	27.65	27.72	28.36	28.32	28.93	28.33
Middle East	8.50	8.20	8.53	8.75	8.19	8.42	8.17	8.64	8.85	8.25	8.48	8.22	8.64	8.88	8.26	8.50
Americas	6.45	6.33	6.35	6.46	6.41	6.39	6.27	6.35	6.42	6.36	6.35	6.27	6.39	6.49	6.44	6.40
FSU	4.54	4.48	4.64	4.91	4.83	4.72	4.66	4.75	4.98	5.01	4.85	4.76	4.85	5.07	5.02	4.93
Africa	4.28	4.34	4.29	4.16	4.31	4.27	4.41	4.38	4.25	4.38	4.35	4.47	4.44	4.30	4.45	4.41
Europe	0.75	0.73	0.74	0.77	0.79	0.76	0.78	0.76	0.79	0.81	0.79	0.78	0.77	0.79	0.83	0.79
Total Non-OECD	50.50	50.61	51.61	51.74	51.64	51.40	51.46	52.60	52.92	52.91	52.48	52.21	53.44	53.84	53.93	53.36
World	97.95	98.47	98.85	99.88	99.40	99.16	98.72	100.05	101.38	101.18	100.34	99.78	101.56	102.91	102.68	101.74
of which: US50	19.96	20.24	20.33	20.63	20.60	20.45	20.29	20.47	20.92	20.84	20.63	20.45	21.02	21.31	21.15	20.98
Europe 5*	8.31	8.22	8.27	8.35	8.18	8.25	8.10	8.27	8.40	8.26	8.26	8.09	8.29	8.44	8.26	8.27
China	12.58	12.75	13.02	13.19	13.14	13.03	12.92	13.40	13.73	13.84	13.48	13.13	13.64	14.08	14.13	13.75
Japan	3.89	4.27	3.43	3.53	3.89	3.78	4.05	3.35	3.47	3.86	3.68	4.02	3.33	3.45	3.85	3.66
India	4.57	4.82	4.93	4.53	4.80	4.77	5.05	5.08	4.75	5.05	4.98	5.24	5.34	4.96	5.30	5.21
Russia	3.32	3.29	3.39	3.63	3.55	3.47	3.45	3.48	3.68	3.65	3.57	3.51	3.54	3.73	3.65	3.61
Brazil	3.00	2.95	2.91	3.07	3.08	3.00	2.98	3.00	3.12	3.10	3.05	2.99	3.04	3.14	3.14	3.08
Saudi Arabia	3.27	2.93	3.18	3.32	2.96	3.10	2.93	3.29	3.42	3.12	3.19	2.89	3.23	3.35	3.00	3.12
Canada	2.45	2.32	2.34	2.56	2.49	2.43	2.20	2.37	2.56	2.45	2.40	2.24	2.36	2.57	2.45	2.40
Korea	2.58	2.63	2.55	2.48	2.44	2.52	2.53	2.46	2.46	2.52	2.49	2.60	2.53	2.53	2.60	2.57
Mexico	1.98	1.99	2.02	1.97	1.88	1.97	1.94	2.08	1.99	1.94	1.99	1.93	2.05	2.01	1.95	1.99
Iran	2.02	2.07	2.07	2.08	2.08	2.07	2.05	2.01	1.98	1.96	2.00	2.08	2.02	2.01	1.99	2.02
Total	67.94	68.48	68.45	69.34	69.09	68.84	68.49	69.27	70.49	70.58	69.71	69.16	70.37	71.58	71.45	70.65
% of World	69.4%	69.5%	69.2%	69.4%	69.5%	69.4%	69.4%	69.2%	69.5%	69.8%	69.5%	69.3%	69.3%	69.6%	69.6%	69.4%
Annual Change (% per annum)																
Americas	0.7	2.6	1.0	2.7	1.3	1.9	-0.5	0.9	1.2	1.1	0.7	0.8	2.0	1.6	1.2	1.4
Europe	2.4	1.7	-0.2	-0.3	-2.0	-0.2	-1.1	1.0	0.6	1.4	0.5	0.2	0.6	0.7	0.4	0.5
Asia Oceania	-0.5	0.4	-0.7	-2.3	-4.3	-1.8	-3.7	-2.3	-1.3	0.5	-1.7	0.7	1.0	1.2	1.3	1.1
Total OECD	1.0	2.0	0.4	1.0	-0.7	0.6	-1.3	0.4	0.6	1.1	0.2	0.6	1.4	1.3	1.0	1.1
Asia	3.8	3.3	2.6	4.1	3.0	3.3	2.4	2.5	3.5	3.6	3.0	2.1	2.3	2.5	3.0	2.5
Middle East	0.3	-0.4	-1.5	-1.3	-0.3	-0.9	-0.3	1.2	1.1	0.8	0.7	0.6	0.0	0.3	0.1	0.2
Americas	0.1	-0.1	-1.6	-1.5	-0.4	-0.9	-0.8	0.0	-0.6	-0.8	-0.6	-0.1	0.6	1.1	1.3	0.7
FSU	0.6	4.3	2.8	3.8	5.1	4.0	4.0	2.4	1.5	3.6	2.9	2.0	2.0	1.7	0.3	1.5
Africa	0.6	-0.6	-0.2	-0.8	0.9	-0.2	1.6	2.1	2.1	1.6	1.9	1.5	1.3	1.2	1.5	1.4
Europe	2.9	2.4	-1.0	1.3	5.3	2.0	7.3	2.8	2.2	2.2	3.5	-0.7	1.1	0.9	2.1	0.8
Total Non-OECD	2.1	2.0	1.1	2.0	2.1	1.8	1.7	1.9	2.3	2.4	2.1	1.5	1.6	1.7	1.9	1.7
World	1.6	2.0	0.7	1.5	0.7	1.2	0.3	1.2	1.5	1.8	1.2	1.1	1.5	1.5	1.5	1.4
Annual Change (mb/d)																
Americas	0.18	0.65	0.25	0.68	0.33	0.48	-0.13	0.23	0.32	0.28	0.18	0.21	0.51	0.42	0.32	0.36
Europe	0.34	0.24	-0.02	-0.04	-0.29	-0.03	-0.16	0.14	0.09	0.19	0.07	0.03	0.09	0.10	0.06	0.07
Asia Oceania	-0.04	0.03	-0.05	-0.18	-0.36	-0.14	-0.31	-0.17	-0.10	0.04	-0.13	0.06	0.07	0.09	0.10	0.08
Total OECD	0.48	0.92	0.17	0.46	-0.32	0.30	-0.60	0.20	0.31	0.51	0.11	0.30	0.68	0.61	0.48	0.52
Asia	0.95	0.85	0.68	1.06	0.79	0.85	0.62	0.67	0.94	0.99	0.81	0.56	0.64	0.69	0.84	0.68
Middle East	0.02	-0.04	-0.13	-0.11	-0.03	-0.08	-0.03	0.10	0.10	0.06	0.06	0.05	0.00	0.03	0.00	0.02
Americas	0.01	0.00	-0.10	-0.10	-0.03	-0.06	-0.05	0.00	-0.04	-0.05	-0.04	-0.01	0.04	0.07	0.08	0.04
FSU	0.03	0.19	0.13	0.18	0.23	0.18	0.18	0.11	0.07	0.18	0.13	0.10	0.10	0.09	0.01	0.07
Africa	0.03	-0.03	-0.01	-0.03	0.04	-0.01	0.07	0.09	0.09	0.07	0.08	0.07	0.06	0.05	0.07	0.06
Europe	0.02	0.02	-0.01	0.01	0.04	0.01	0.05	0.02	0.02	0.02	0.03	-0.01	0.01	0.01	0.02	0.01
Total Non-OECD	1.05	0.99	0.55	1.01	1.05	0.90	0.85	0.99	1.18	1.26	1.07	0.76	0.84	0.93	1.02	0.88
World	1.53	1.91	0.72	1.47	0.72	1.20	0.25	1.20	1.49	1.78	1.18	1.06	1.51	1.53	1.50	1.40
Revisions to Oil Demand from Last Month's Report (mb/d)																
Americas	0.00	0.00	0.00	0.00	0.00	0.00	-0.27	-0.14	0.02	0.03	-0.09					
Europe	0.00	0.00	0.04	0.01	0.02	0.02	-0.02	0.01	0.07	0.01	0.02					
Asia Oceania	0.00	0.00	0.00	0.00	0.00	0.00	-0.02	-0.05	0.00	0.00	-0.02					
Total OECD	0.00	0.00	0.04	0.01	0.02	0.02	-0.30	-0.17	0.08	0.05	-0.08					
Asia	0.00	0.02	0.00	0.00	0.00	0.00	0.00	-0.13	0.10	0.02	0.00					
Middle East	0.01	0.01	0.00	0.00	-0.01	0.00	-0.09	-0.03	-0.01	-0.01	-0.03					
Americas	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-0.02	0.00	-0.01	-0.01					
FSU	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.04	0.02	0.01	0.02					
Africa	0.00	0.00	0.00	0.00	0.00	0.00	-0.01	0.01	0.01	0.01	0.01					
Europe	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.00	0.00	0.01	0.01					
Total Non-OECD	0.00	0.03	0.00	0.00	-0.01	0.00	-0.06	-0.13	0.11	0.04	-0.02					
World	0.00	0.03	0.04	0.01	0.01	0.01	-0.36	-0.30	0.20	0.08	-0.10					
Revisions to Oil Demand Growth from Last Month's Report (mb/d)																
World	0.03	0.02	0.03	0.01	0.00	0.01	-0.39	-0.34	0.19	0.08	-0.11					

* France, Germany, Italy, Spain and UK

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

										Latest month vs.	
	2017	2018	2Q18	3Q18	4Q18	1Q19	Jan 19	Feb 19	Mar 19 ²	Feb 19	Mar 18
Americas											
LPG and ethane	3.33	3.63	3.29	3.48	3.77	4.07	4.28	4.16	3.76	-0.40	-0.02
Naphtha	0.34	0.29	0.27	0.31	0.32	0.24	0.24	0.24	0.24	0.00	-0.04
Motor gasoline	11.11	11.08	11.28	11.29	11.03	10.62	10.46	10.66	10.76	0.09	-0.45
Jet and kerosene	1.98	2.03	2.04	2.12	2.01	1.97	1.95	1.94	2.02	0.09	-0.01
Gasoil/diesel oil	5.14	5.38	5.38	5.30	5.47	5.46	5.51	5.54	5.32	-0.21	-0.06
Residual fuel oil	0.68	0.67	0.68	0.71	0.67	0.63	0.63	0.67	0.58	-0.09	-0.01
Other products	2.47	2.44	2.42	2.62	2.40	2.15	2.19	1.99	2.25	0.26	-0.10
Total	25.06	25.53	25.37	25.83	25.66	25.13	25.26	25.21	24.94	-0.26	-0.69
Europe											
LPG and ethane	1.14	1.16	1.13	1.15	1.11	1.13	1.15	1.14	1.10	-0.05	-0.18
Naphtha	1.12	1.03	1.01	1.00	0.92	1.10	1.17	1.11	1.03	-0.08	0.00
Motor gasoline	1.97	1.97	2.05	2.05	1.95	1.85	1.79	1.87	1.89	0.02	0.01
Jet and kerosene	1.45	1.53	1.54	1.71	1.46	1.39	1.39	1.38	1.41	0.03	-0.02
Gasoil/diesel oil	6.48	6.45	6.35	6.46	6.58	6.43	6.41	6.61	6.30	-0.31	-0.34
Residual fuel oil	0.89	0.88	0.89	0.90	0.85	0.90	0.89	0.93	0.88	-0.05	-0.01
Other products	1.29	1.28	1.30	1.42	1.27	1.13	1.01	1.17	1.21	0.04	0.03
Total	14.33	14.30	14.27	14.69	14.13	13.93	13.80	14.21	13.81	-0.40	-0.50
Asia Oceania											
LPG and ethane	0.75	0.72	0.72	0.65	0.70	0.81	0.84	0.85	0.74	-0.10	-0.07
Naphtha	2.04	1.99	1.92	1.97	2.02	2.05	2.10	2.12	1.94	-0.18	0.04
Motor gasoline	1.54	1.53	1.51	1.59	1.52	1.48	1.45	1.51	1.48	-0.03	-0.06
Jet and kerosene	0.91	0.91	0.74	0.72	1.00	1.14	1.23	1.22	0.97	-0.25	0.01
Gasoil/diesel oil	1.89	1.92	1.90	1.88	1.96	1.97	1.94	2.01	1.96	-0.04	-0.02
Residual fuel oil	0.58	0.55	0.49	0.52	0.53	0.52	0.53	0.55	0.50	-0.05	-0.12
Other products	0.35	0.30	0.32	0.30	0.23	0.23	0.23	0.23	0.23	0.00	-0.13
Total	8.06	7.92	7.60	7.62	7.96	8.20	8.31	8.49	7.82	-0.67	-0.35
OECD											
LPG and ethane	5.21	5.51	5.13	5.28	5.58	6.00	6.27	6.16	5.60	-0.56	-0.27
Naphtha	3.50	3.31	3.20	3.27	3.26	3.40	3.51	3.48	3.22	-0.26	0.01
Motor gasoline	14.62	14.59	14.84	14.93	14.50	13.95	13.69	14.05	14.13	0.08	-0.49
Jet and kerosene	4.35	4.47	4.33	4.55	4.48	4.50	4.57	4.54	4.40	-0.13	-0.02
Gasoil/diesel oil	13.51	13.76	13.63	13.64	14.00	13.86	13.86	14.16	13.59	-0.57	-0.42
Residual fuel oil	2.15	2.10	2.06	2.14	2.04	2.05	2.05	2.14	1.96	-0.19	-0.14
Other products	4.11	4.02	4.04	4.34	3.90	3.51	3.43	3.39	3.69	0.30	-0.20
Total	47.45	47.75	47.24	48.15	47.76	47.26	47.37	47.91	46.57	-1.33	-1.53

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	2Q18	3Q18	4Q18	1Q19	Jan 19	Feb 19	Mar 19 ²	Latest month vs.	
										Feb 19	Mar 18
United States³											
LPG and ethane	2.54	2.85	2.58	2.68	3.04	3.29	3.45	3.39	3.03	-0.36	0.05
Naphtha	0.23	0.23	0.20	0.24	0.24	0.21	0.20	0.21	0.21	-0.01	-0.01
Motor gasoline	9.33	9.32	9.51	9.51	9.25	8.96	8.74	8.96	9.17	0.21	-0.27
Jet and kerosene	1.69	1.72	1.73	1.78	1.70	1.66	1.66	1.62	1.71	0.09	-0.01
Gasoil/diesel oil	3.93	4.13	4.13	4.05	4.18	4.28	4.36	4.33	4.16	-0.18	-0.01
Residual fuel oil	0.34	0.32	0.32	0.34	0.34	0.27	0.30	0.30	0.22	-0.08	-0.01
Other products	1.90	1.88	1.86	2.04	1.85	1.62	1.74	1.38	1.71	0.33	-0.12
Total	19.96	20.45	20.33	20.63	20.60	20.29	20.45	20.19	20.20	0.01	-0.37
Japan											
LPG and ethane	0.39	0.37	0.35	0.31	0.36	0.44	0.45	0.48	0.40	-0.08	-0.06
Naphtha	0.77	0.73	0.66	0.70	0.80	0.79	0.79	0.82	0.76	-0.06	0.08
Motor gasoline	0.88	0.87	0.85	0.92	0.86	0.81	0.78	0.84	0.82	-0.02	-0.05
Jet and kerosene	0.51	0.50	0.37	0.33	0.57	0.68	0.73	0.77	0.55	-0.22	0.00
Diesel	0.43	0.45	0.44	0.45	0.48	0.46	0.42	0.48	0.47	0.00	0.02
Other gasoil	0.35	0.33	0.29	0.28	0.33	0.36	0.36	0.38	0.34	-0.04	-0.05
Residual fuel oil	0.28	0.28	0.23	0.27	0.27	0.26	0.25	0.29	0.24	-0.05	-0.07
Other products	0.28	0.26	0.24	0.27	0.24	0.25	0.27	0.25	0.24	-0.01	-0.07
Total	3.89	3.78	3.43	3.53	3.89	4.05	4.06	4.31	3.82	-0.48	-0.21
Germany											
LPG and ethane	0.13	0.11	0.13	0.11	0.09	0.12	0.11	0.13	0.11	-0.02	-0.01
Naphtha	0.30	0.28	0.29	0.25	0.24	0.33	0.35	0.35	0.30	-0.06	0.03
Motor gasoline	0.50	0.49	0.51	0.50	0.48	0.47	0.46	0.48	0.48	0.00	0.00
Jet and kerosene	0.22	0.22	0.23	0.25	0.22	0.20	0.20	0.21	0.20	-0.01	-0.01
Diesel	0.76	0.73	0.75	0.76	0.73	0.71	0.68	0.76	0.71	-0.05	-0.01
Other gasoil	0.37	0.33	0.27	0.30	0.37	0.43	0.50	0.45	0.35	-0.10	-0.09
Residual fuel oil	0.08	0.07	0.07	0.07	0.06	0.07	0.07	0.07	0.07	0.00	-0.01
Other products	0.09	0.10	0.09	0.13	0.12	0.06	0.06	0.06	0.06	0.00	-0.02
Total	2.46	2.34	2.34	2.35	2.30	2.41	2.44	2.51	2.28	-0.23	-0.12
Italy											
LPG and ethane	0.10	0.10	0.09	0.09	0.11	0.10	0.11	0.11	0.07	-0.03	-0.05
Naphtha	0.09	0.07	0.06	0.07	0.05	0.02	0.02	0.00	0.02	0.02	-0.06
Motor gasoline	0.16	0.16	0.17	0.17	0.15	0.11	0.11	0.11	0.12	0.01	-0.04
Jet and kerosene	0.11	0.11	0.11	0.13	0.10	0.08	0.09	0.08	0.08	0.00	-0.01
Diesel	0.47	0.50	0.50	0.49	0.50	0.49	0.49	0.49	0.49	0.00	-0.03
Other gasoil	0.08	0.08	0.08	0.09	0.09	0.07	0.07	0.07	0.07	0.00	-0.01
Residual fuel oil	0.08	0.08	0.08	0.07	0.07	0.06	0.07	0.06	0.06	0.00	-0.01
Other products	0.15	0.17	0.17	0.18	0.18	0.15	0.15	0.17	0.15	-0.02	-0.01
Total	1.24	1.27	1.27	1.29	1.26	1.08	1.10	1.08	1.06	-0.02	-0.22
France											
LPG and ethane	0.12	0.11	0.10	0.09	0.10	0.13	0.14	0.14	0.11	-0.02	-0.02
Naphtha	0.12	0.12	0.14	0.13	0.09	0.14	0.13	0.14	0.13	-0.01	0.01
Motor gasoline	0.18	0.19	0.20	0.20	0.19	0.18	0.17	0.18	0.18	0.00	0.00
Jet and kerosene	0.16	0.17	0.17	0.19	0.16	0.16	0.16	0.16	0.16	0.00	0.01
Diesel	0.72	0.70	0.71	0.70	0.70	0.67	0.65	0.69	0.67	-0.02	-0.06
Other gasoil	0.25	0.24	0.19	0.23	0.25	0.26	0.29	0.27	0.22	-0.05	-0.06
Residual fuel oil	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.06	0.04	-0.01	-0.02
Other products	0.12	0.13	0.13	0.14	0.13	0.11	0.11	0.09	0.12	0.02	0.01
Total	1.74	1.70	1.69	1.74	1.68	1.69	1.69	1.73	1.64	-0.09	-0.12
United Kingdom											
LPG and ethane	0.14	0.14	0.15	0.13	0.14	0.15	0.13	0.16	0.15	-0.01	0.00
Naphtha	0.03	0.03	0.03	0.02	0.03	0.02	0.03	0.03	0.01	-0.02	-0.02
Motor gasoline	0.29	0.28	0.29	0.28	0.28	0.29	0.28	0.30	0.29	-0.01	0.05
Jet and kerosene	0.32	0.34	0.33	0.35	0.33	0.35	0.35	0.34	0.35	0.00	-0.02
Diesel	0.52	0.53	0.54	0.53	0.53	0.52	0.49	0.55	0.54	-0.01	0.08
Other gasoil	0.14	0.15	0.15	0.16	0.14	0.12	0.10	0.14	0.13	-0.01	-0.01
Residual fuel oil	0.03	0.03	0.03	0.02	0.02	0.02	0.02	0.02	0.02	-0.01	-0.01
Other products	0.12	0.12	0.12	0.13	0.12	0.12	0.12	0.13	0.11	-0.01	-0.01
Total	1.58	1.61	1.64	1.63	1.59	1.60	1.52	1.68	1.60	-0.08	0.07
Canada											
LPG and ethane	0.39	0.35	0.30	0.38	0.32	0.34	0.37	0.34	0.31	-0.04	-0.06
Naphtha	0.10	0.05	0.05	0.05	0.05	0.01	0.01	0.01	0.01	0.00	-0.05
Motor gasoline	0.85	0.84	0.83	0.88	0.87	0.74	0.78	0.75	0.69	-0.06	-0.09
Jet and kerosene	0.15	0.17	0.16	0.19	0.16	0.16	0.16	0.17	0.16	-0.01	0.00
Diesel	0.29	0.26	0.27	0.26	0.26	0.54	0.56	0.53	0.54	0.01	0.29
Other gasoil	0.27	0.32	0.29	0.34	0.37	0.00	0.00	0.00	0.00	0.00	-0.28
Residual fuel oil	0.06	0.08	0.09	0.07	0.09	0.08	0.06	0.10	0.07	-0.03	0.03
Other products	0.35	0.36	0.36	0.38	0.36	0.33	0.26	0.40	0.32	-0.09	0.02
Total	2.45	2.43	2.34	2.56	2.49	2.20	2.20	2.31	2.09	-0.22	-0.14

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	1Q19	2Q19	3Q19	4Q19	1Q20	Mar 19	Apr 19	May 19
OPEC											
Crude Oil											
Saudi Arabia	10.33			10.06					9.80	9.81	9.70
Iran	3.58			2.73					2.74	2.61	2.40
Iraq	4.57			4.68					4.57	4.65	4.78
UAE	3.00			3.06					3.05	3.05	3.05
Kuwait	2.75			2.71					2.71	2.69	2.71
Neutral Zone	0.00			0.00					0.00	0.00	0.00
Angola	1.49			1.44					1.41	1.41	1.45
Nigeria	1.60			1.68					1.70	1.75	1.69
Libya	0.97			0.96					1.07	1.16	1.16
Algeria	1.04			1.03					1.02	1.02	1.03
Congo	0.32			0.34					0.34	0.36	0.34
Gabon	0.19			0.22					0.22	0.20	0.20
Equatorial Guinea	0.12			0.11					0.11	0.11	0.10
Ecuador	0.52			0.53					0.53	0.53	0.53
Venezuela	1.40			1.08					0.87	0.83	0.81
Total Crude Oil	31.88			30.61					30.14	30.18	29.95
Total NGLs ¹	5.53	5.57	5.61	5.58	5.58	5.56	5.56	5.62	5.58	5.58	5.58
Total OPEC²	37.40			36.18					35.72	35.76	35.53
NON-OPEC³											
OECD											
Americas	22.79	24.39	25.72	23.82	24.06	24.55	25.11	25.40	24.03	24.13	24.00
United States	15.49	17.22	18.48	16.64	17.01	17.43	17.78	18.11	16.79	16.89	17.04
Mexico	2.08	1.90	1.83	1.92	1.91	1.89	1.87	1.85	1.94	1.92	1.91
Canada	5.21	5.26	5.40	5.25	5.12	5.22	5.45	5.43	5.29	5.31	5.04
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	3.35	3.67	3.46	3.24	3.30	3.42	3.65	3.46	3.36	3.28
UK	1.11	1.15	1.17	1.21	1.13	1.09	1.17	1.29	1.22	1.16	1.16
Norway	1.85	1.72	2.02	1.77	1.62	1.73	1.77	1.87	1.75	1.73	1.65
Others	0.51	0.48	0.48	0.48	0.48	0.48	0.48	0.48	0.49	0.48	0.47
Asia Oceania	0.41	0.46	0.55	0.44	0.45	0.47	0.49	0.51	0.44	0.45	0.45
Australia	0.34	0.39	0.48	0.37	0.38	0.40	0.42	0.45	0.37	0.37	0.38
Others	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07
Total OECD	26.67	28.20	29.93	27.72	27.74	28.32	29.02	29.57	27.93	27.94	27.73
NON-OECD											
Former USSR	14.56	14.58	14.78	14.80	14.37	14.48	14.68	14.82	14.71	14.30	14.33
Russia	11.49	11.57	11.71	11.67	11.45	11.52	11.63	11.70	11.63	11.57	11.44
Others	3.07	3.01	3.07	3.13	2.92	2.95	3.05	3.12	3.08	2.73	2.89
Asia	7.19	7.12	6.99	7.21	7.16	7.06	7.07	7.07	7.30	7.15	7.15
China	3.85	3.90	3.86	3.92	3.92	3.87	3.88	3.89	3.99	3.92	3.91
Malaysia	0.72	0.69	0.70	0.71	0.70	0.67	0.70	0.71	0.71	0.68	0.71
India	0.84	0.81	0.80	0.82	0.81	0.81	0.80	0.81	0.83	0.81	0.80
Indonesia	0.80	0.75	0.71	0.77	0.76	0.75	0.73	0.73	0.77	0.76	0.76
Others	0.98	0.96	0.92	0.98	0.97	0.96	0.95	0.94	1.00	0.97	0.97
Europe	0.12	0.12	0.11	0.12	0.12	0.12	0.12	0.11	0.12	0.12	0.12
Americas	4.50	4.76	5.07	4.50	4.67	4.87	4.99	5.05	4.49	4.54	4.70
Brazil	2.70	2.94	3.27	2.66	2.84	3.05	3.19	3.25	2.66	2.71	2.87
Argentina	0.58	0.60	0.60	0.59	0.60	0.60	0.60	0.60	0.59	0.60	0.59
Colombia	0.87	0.89	0.85	0.90	0.89	0.88	0.87	0.87	0.89	0.90	0.89
Others	0.35	0.34	0.35	0.35	0.34	0.34	0.34	0.34	0.35	0.34	0.34
Middle East	3.27	3.27	3.28	3.27	3.27	3.26	3.27	3.28	3.25	3.27	3.26
Oman	0.99	0.98	0.99	0.98	0.98	0.98	0.99	0.99	0.98	0.98	0.98
Qatar	2.01	2.01	2.01	2.02	2.01	2.01	2.01	2.01	2.03	2.02	2.01
Syria	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02
Yemen	0.04	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	0.20	0.21	0.21	0.21	0.21	0.17	0.21	0.21
Africa	1.45	1.47	1.47	1.46	1.48	1.47	1.46	1.47	1.46	1.50	1.47
Egypt	0.65	0.64	0.64	0.64	0.64	0.64	0.64	0.64	0.63	0.64	0.64
Others	0.80	0.83	0.83	0.82	0.84	0.83	0.83	0.83	0.83	0.85	0.83
Total Non-OECD	31.09	31.32	31.69	31.36	31.06	31.25	31.60	31.80	31.34	30.88	31.03
Processing gains ⁴	2.32	2.35	2.38	2.35	2.35	2.35	2.35	2.38	2.35	2.35	2.35
Global Biofuels	2.62	2.70	2.83	2.20	2.84	3.05	2.71	2.36	2.16	2.67	2.86
TOTAL NON-OPEC	62.70	64.57	66.83	63.63	63.99	64.97	65.68	66.11	63.77	63.84	63.97
TOTAL SUPPLY	100.10			99.81					99.49	99.60	99.50

¹ Includes condensates reported by OPEC countries, oil from non-conventional sources, e.g. NGLs in Qatar and Nigeria and non-oil inputs to Saudi Arabian MTBE.

² OPEC data based on today's membership throughout the time series.

³ Comprises crude oil, condensates, NGLs and oil from non-conventional sources

⁴ Net volumetric gains and losses in refining and marine transportation losses.

Table 4
OECD INDUSTRY STOCKS¹ AND QUARTERLY STOCK CHANGES

	RECENT MONTHLY STOCKS ²					PRIOR YEARS' STOCKS ²			STOCK CHANGES			
	in Million Barrels					in Million Barrels			in mb/d			
	Dec2018	Jan2019	Feb2019	Mar2019	Apr2019*	Apr2016	Apr2017	Apr2018	2Q2018	3Q2018	4Q2018	1Q2019
OECD Americas												
Crude	604.3	615.6	608.1	615.3	632.1	664.2	676.7	585.3	-0.14	0.00	0.35	0.12
Motor Gasoline	278.3	291.1	278.3	266.4	259.2	274.3	275.7	271.5	-0.07	0.04	0.09	-0.15
Middle Distillate	217.3	213.1	207.2	205.8	201.6	232.2	233.6	195.2	-0.16	0.27	0.01	-0.13
Residual Fuel Oil	34.2	36.7	33.5	34.1	33.6	50.4	43.5	38.7	-0.06	0.00	-0.01	0.00
Total Products ³	749.1	744.6	715.5	710.3	716.8	761.2	745.7	696.9	0.06	0.61	-0.17	-0.41
Total ⁴	1541.9	1546.2	1508.9	1509.0	1536.4	1602.0	1602.8	1461.6	0.03	0.76	0.01	-0.34
OECD Europe												
Crude	322.6	323.6	338.3	347.3	345.9	355.8	353.4	353.5	0.12	-0.31	-0.05	0.27
Motor Gasoline	95.3	107.8	105.8	99.5	95.1	100.0	99.6	93.9	-0.14	0.01	0.11	0.05
Middle Distillate	261.7	263.0	266.8	271.5	268.6	323.6	320.9	263.2	-0.13	0.18	-0.12	0.11
Residual Fuel Oil	56.4	60.5	58.2	59.0	57.1	76.9	66.4	60.5	-0.01	-0.03	-0.01	0.03
Total Products ³	528.5	548.9	550.8	548.6	538.7	598.8	601.6	533.1	-0.29	0.16	-0.05	0.22
Total ⁴	930.6	954.6	970.8	978.6	968.2	1026.0	1029.1	970.3	-0.14	-0.22	-0.06	0.53
OECD Asia Oceania												
Crude	154.4	152.8	167.6	159.0	156.3	193.9	193.4	163.2	0.01	-0.24	0.16	0.05
Motor Gasoline	24.1	26.3	25.5	25.9	24.6	25.0	24.4	24.4	0.00	0.00	0.00	0.02
Middle Distillate	73.7	64.3	63.2	67.1	64.0	61.6	66.1	65.1	0.04	0.13	-0.04	-0.07
Residual Fuel Oil	20.5	20.8	21.2	19.7	20.3	19.2	18.8	19.0	0.03	-0.01	0.01	-0.01
Total Products ³	180.7	169.2	168.1	164.2	160.5	164.3	165.1	164.9	0.04	0.22	-0.04	-0.18
Total ⁴	399.4	384.4	394.4	379.6	378.4	420.3	420.3	388.4	0.11	0.02	0.11	-0.22
Total OECD												
Crude	1081.3	1092.1	1113.9	1121.6	1134.4	1213.9	1223.5	1102.0	0.00	-0.55	0.46	0.45
Motor Gasoline	397.7	425.2	409.7	391.8	378.9	399.3	399.7	389.8	-0.20	0.05	0.20	-0.08
Middle Distillate	552.8	540.5	537.2	544.4	534.2	617.4	620.5	523.5	-0.25	0.58	-0.15	-0.09
Residual Fuel Oil	111.0	118.0	112.9	112.8	110.9	146.5	128.7	118.1	-0.04	-0.04	-0.01	0.02
Total Products ³	1458.3	1462.7	1434.4	1423.1	1416.0	1524.4	1512.4	1394.9	-0.19	0.98	-0.26	-0.37
Total ⁴	2871.9	2885.1	2874.1	2867.2	2883.1	3048.3	3052.2	2820.3	0.00	0.56	0.05	-0.03

OECD GOVERNMENT-CONTROLLED STOCKS⁵ AND QUARTERLY STOCK CHANGES

	RECENT MONTHLY STOCKS ²					PRIOR YEARS' STOCKS ²			STOCK CHANGES			
	in Million Barrels					in Million Barrels			in mb/d			
	Dec2018	Jan2019	Feb2019	Mar2019	Apr2019*	Apr2016	Apr2017	Apr2018	2Q2018	3Q2018	4Q2018	1Q2019
OECD Americas												
Crude	649.1	649.1	649.1	649.1	648.0	695.1	688.8	664.0	-0.06	0.00	-0.12	0.00
Products	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	0.00	0.00	0.00	0.00
OECD Europe												
Crude	208.3	205.5	206.2	206.7	206.4	206.4	206.1	208.7	0.01	0.01	-0.01	-0.02
Products	266.2	269.8	272.9	273.4	272.7	267.2	275.7	272.8	-0.01	-0.04	-0.03	0.08
OECD Asia Oceania												
Crude	381.1	380.6	379.9	378.6	378.6	384.2	385.1	383.4	0.00	0.00	-0.02	-0.03
Products	38.8	38.8	38.8	38.8	38.8	35.2	38.0	38.7	0.00	0.00	0.00	0.00
Total OECD												
Crude	1238.5	1235.2	1235.2	1234.4	1233.0	1285.7	1280.0	1256.1	-0.05	0.01	-0.15	-0.04
Products	307.0	310.6	313.6	314.2	313.5	304.4	315.6	313.5	-0.01	-0.04	-0.03	0.08
Total ⁴	1547.4	1548.9	1551.8	1551.6	1548.7	1593.2	1598.1	1573.3	-0.06	-0.05	-0.19	0.05

* estimated

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

2 Closing stock levels.

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

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

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

Table 5
TOTAL STOCKS ON LAND IN OECD COUNTRIES¹
(millions of barrels¹ and 'days'²)

	End March 2018		End June 2018		End September 2018		End December 2018		End March 2019 ³	
	Stock	Days Fwd ²	Stock	Days Fwd	Stock	Days Fwd	Stock	Days Fwd	Stock	Days Fwd
	Level	Demand	Level	Demand	Level	Demand	Level	Demand	Level	Demand
OECD Americas										
Canada	191.9	82	190.3	74	195.5	79	192.3	87	186.8	-
Chile	10.8	29	12.3	34	11.6	32	10.4	28	10.5	-
Mexico	47.3	23	39.1	20	40.6	22	54.7	28	40.5	-
United States ⁴	1863.8	92	1869.2	91	1933.6	94	1913.5	94	1900.2	-
Total ⁴	2135.9	84	2133.1	83	2203.3	86	2193.0	87	2160.1	84
OECD Asia Oceania										
Australia	40.3	33	42.4	35	42.6	35	40.7	34	44.0	-
Israel	-	-	-	-	-	-	-	-	-	-
Japan	538.6	157	549.4	155	561.2	144	564.8	139	539.7	-
Korea	213.0	84	209.6	84	200.0	82	205.8	81	205.1	-
New Zealand	8.0	50	8.4	50	7.8	43	7.9	44	8.1	-
Total	800.0	105	809.8	106	811.6	102	819.2	100	797.0	107
OECD Europe⁵										
Austria	23.0	83	21.2	74	20.2	73	20.9	80	23.0	-
Belgium	46.0	73	43.3	68	44.0	67	42.0	62	45.8	-
Czech Republic	22.7	104	21.4	97	21.5	99	22.8	112	23.0	-
Denmark	22.1	135	22.8	142	20.6	126	20.3	133	22.1	-
Estonia	2.5	81	2.6	89	2.6	91	2.9	94	2.6	-
Finland	41.0	190	40.8	183	40.0	186	39.9	187	38.5	-
France	166.0	98	168.5	97	164.6	98	160.8	95	169.0	-
Germany	280.0	120	278.3	118	272.6	118	271.0	113	270.5	-
Greece	33.3	115	32.1	99	34.4	113	32.1	110	35.3	-
Hungary	26.1	147	25.2	138	25.6	143	25.6	152	25.8	-
Ireland	11.4	73	10.0	65	9.9	61	10.2	65	10.3	-
Italy	125.8	99	125.4	97	124.5	99	125.1	116	130.5	-
Latvia	3.1	72	3.6	79	2.3	59	2.4	57	4.0	-
Luxembourg	0.6	9	0.4	7	0.5	8	0.5	8	0.5	-
Netherlands	147.8	159	142.4	151	143.8	158	139.2	147	155.0	-
Norway	27.2	126	26.4	99	24.1	112	26.7	147	23.9	-
Poland	75.0	111	75.7	105	74.1	108	76.8	119	77.8	-
Portugal	24.8	106	23.8	94	23.5	98	24.6	103	26.4	-
Slovak Republic	12.1	132	11.6	135	12.0	131	11.8	143	12.0	-
Slovenia	5.1	92	4.9	85	4.8	89	5.0	107	4.9	-
Spain	124.7	94	117.9	88	119.7	89	115.9	87	124.2	-
Sweden	38.7	115	37.7	119	34.5	107	35.8	119	38.1	-
Switzerland	33.1	158	33.6	159	33.0	142	30.8	137	31.6	-
Turkey	84.1	87	90.1	80	87.0	100	87.6	99	87.7	-
United Kingdom	77.9	47	82.1	50	77.5	49	76.4	48	79.3	-
Total	1454.0	102	1441.8	98	1417.1	100	1407.0	101	1461.7	101
Total OECD	4389.9	93	4384.7	91	4432.0	93	4419.2	94	4418.8	93
DAYS OF IEA Net Imports⁶ -	186	-	190	-	191	-	190	-	192	-

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 March 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 controlled <i>Millions of Barrels</i>	Industry	Total	Government ¹ controlled <i>Days of Fwd. Demand²</i>	Industry
1Q2016	4633	1595	3039	100	35	66
2Q2016	4668	1592	3076	99	34	65
3Q2016	4679	1596	3084	99	34	65
4Q2016	4602	1600	3002	98	34	64
1Q2017	4630	1600	3031	98	34	64
2Q2017	4608	1588	3019	97	33	63
3Q2017	4547	1578	2969	95	33	62
4Q2017	4421	1568	2854	92	33	60
1Q2018	4390	1575	2815	93	33	60
2Q2018	4385	1570	2815	91	33	58
3Q2018	4432	1565	2867	93	33	60
4Q2018	4419	1547	2872	94	33	61
1Q2019	4419	1552	2867	93	33	60

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

² Days of forward demand calculated using actual demand except in 1Q2019 (when latest forecasts are used).

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

	2016	2017	2018	2Q18	3Q18	4Q18	1Q19	Jan 19	Feb 19	Mar 19	Year Earlier	
											Mar 18	change
Saudi Light & Extra Light												
Americas	0.69	0.59	0.66	0.79	0.64	0.66	0.35	0.37	0.33	0.34	0.55	-0.21
Europe	0.79	0.69	0.69	0.70	0.76	0.72	0.70	0.77	0.69	0.64	0.64	0.00
Asia Oceania	1.40	1.56	1.45	1.42	1.36	1.50	1.62	1.65	1.62	1.58	1.32	0.26
Saudi Medium												
Americas	0.44	0.33	0.30	0.28	0.37	0.33	0.13	-	-	0.36	0.18	0.18
Europe	0.01	0.01	0.01	0.01	0.01	0.01	-	-	-	-	0.02	-
Asia Oceania	0.41	0.37	0.41	0.42	0.41	0.39	0.24	0.28	0.34	0.13	0.45	-0.32
Canada Heavy												
Americas	2.04	2.23	2.41	2.48	2.39	2.43	2.24	2.31	2.07	2.33	2.40	-0.07
Europe	0.01	0.02	0.04	0.04	0.05	0.02	0.03	0.03	0.04	0.00	0.04	-0.03
Asia Oceania	-	-	0.00	0.00	-	0.01	-	-	-	-	-	-
Iraqi Basrah Light²												
Americas	0.42	0.63	0.50	0.63	0.41	0.32	0.46	0.52	0.38	0.45	0.54	-0.08
Europe	0.81	0.76	0.76	0.61	0.87	0.92	0.89	0.90	0.85	0.92	0.59	0.34
Asia Oceania	0.46	0.40	0.43	0.48	0.42	0.42	0.45	0.50	0.41	0.43	0.35	0.08
Kuwait Blend												
Americas	0.14	0.11	0.02	0.04	-	-	-	-	-	-	-	-
Europe	0.19	0.20	0.13	0.08	0.17	0.13	0.04	0.09	0.02	0.00	0.12	-0.12
Asia Oceania	0.66	0.68	0.66	0.66	0.67	0.62	0.63	0.66	0.69	0.54	0.50	0.04
Iranian Light												
Americas	-	-	-	-	-	-	-	-	-	-	-	-
Europe	0.21	0.27	0.16	0.26	0.13	0.03	0.01	0.03	-	-	0.22	-
Asia Oceania	0.01	0.01	0.01	0.01	0.01	-	0.01	-	-	0.03	0.01	0.02
Iranian Heavy³												
Americas	-	-	-	-	-	-	-	-	-	-	-	-
Europe	0.21	0.52	0.35	0.44	0.41	0.11	0.09	0.06	0.09	0.12	0.38	-0.25
Asia Oceania	0.52	0.57	0.28	0.36	0.24	0.02	0.36	0.06	0.44	0.60	0.55	0.05
BFOE												
Americas	0.02	0.02	0.00	0.00	0.00	-	-	-	-	-	-	-
Europe	0.44	0.45	0.35	0.25	0.43	0.31	0.39	0.57	0.29	0.30	0.47	-0.17
Asia Oceania	0.05	0.10	0.09	0.09	0.07	0.10	-	-	-	-	0.06	-
Kazakhstan												
Americas	0.01	-	-	-	-	-	-	-	-	-	-	-
Europe	0.70	0.75	0.75	0.73	0.70	0.71	0.86	0.77	0.92	0.90	0.78	0.11
Asia Oceania	0.03	0.10	0.19	0.19	0.21	0.22	0.17	0.16	0.15	0.21	0.14	0.07
Venezuelan 22 API and heavier												
Americas	0.63	0.48	0.44	0.47	0.45	0.45	0.19	0.48	0.10	-	0.50	-
Europe	0.05	0.04	0.03	0.02	0.03	0.06	0.10	0.13	0.08	0.09	0.02	0.06
Asia Oceania	-	-	-	-	-	-	-	-	-	-	-	-
Mexican Maya												
Americas	0.53	0.58	0.63	0.63	0.75	0.51	0.54	0.47	0.59	0.56	0.68	-0.12
Europe	0.17	0.20	0.21	0.22	0.17	0.17	0.21	0.18	0.25	0.21	0.26	-0.05
Asia Oceania	0.05	0.07	0.08	0.10	0.08	0.09	0.12	0.13	0.10	0.13	0.07	0.06
Russian Urals												
Americas	-	0.01	0.01	-	-	0.02	0.04	0.09	0.03	-	-	-
Europe	1.72	1.64	1.39	1.46	1.37	1.37	1.38	1.32	1.19	1.62	1.35	0.28
Asia Oceania	-	0.01	0.00	0.01	-	-	-	-	-	-	-	-
Cabinda and Other Angola												
North America	0.16	0.07	0.06	0.10	0.11	0.02	-	-	-	-	-	-
Europe	0.27	0.11	0.14	0.11	0.22	0.08	0.17	0.12	0.20	0.18	0.13	0.05
Pacific	0.01	0.01	0.01	0.00	-	0.03	-	-	-	-	-	-
Nigerian Light⁴												
Americas	0.07	0.04	0.01	0.01	-	-	-	-	-	-	-	-
Europe	0.39	0.39	0.53	0.49	0.54	0.62	0.47	0.44	0.51	0.47	0.47	0.00
Asia Oceania	0.01	0.02	0.02	0.03	0.01	0.02	0.03	0.01	0.04	0.03	0.03	0.00
Libya Light and Medium												
Americas	-	0.02	-	-	-	-	-	-	-	-	-	-
Europe	0.20	0.54	0.62	0.64	0.55	0.65	0.54	0.62	0.45	0.54	0.62	-0.08
Asia Oceania	0.02	0.03	0.02	0.01	0.02	0.02	0.04	0.05	0.03	0.03	-	-

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	2Q18	3Q18	4Q18	1Q19	Jan 19	Feb 19	Mar 19	Year Earlier	
											Mar 18	% change
Crude Oil												
Americas	4542	4361	3759	4085	3905	3223	2927	3391	2704	2663	3761	-29%
Europe	9253	9712	9536	9463	9728	9452	9807	9869	9939	9624	9107	6%
Asia Oceania	6659	6843	6698	6571	6513	6861	6901	6718	7511	6533	6280	4%
Total OECD	20455	20916	19992	20120	20146	19535	19634	19978	20155	18819	19147	-2%
LPG												
Americas	20	20	22	14	17	24	35	52	30	22	24	-11%
Europe	445	437	473	468	429	502	464	449	506	441	485	-9%
Asia Oceania	567	549	555	567	503	555	586	678	674	415	584	-29%
Total OECD	1032	1006	1050	1049	949	1082	1085	1180	1211	878	1093	-20%
Naphtha												
Americas	10	19	8	5	6	11	5	4	5	5	7	-23%
Europe	348	369	379	389	346	358	382	481	414	255	495	-49%
Asia Oceania	908	981	1021	958	1007	1088	921	959	921	882	999	-12%
Total OECD	1266	1369	1409	1352	1360	1458	1307	1444	1339	1142	1501	-24%
Gasoline ³												
Americas	735	727	773	1060	968	504	595	605	523	651	760	-14%
Europe	100	162	102	67	85	104	106	137	72	107	164	-35%
Asia Oceania	87	102	108	123	92	95	111	126	68	136	107	27%
Total OECD	922	990	983	1250	1144	703	813	867	662	894	1031	-13%
Jet & Kerosene												
Americas	169	171	140	136	178	115	136	96	162	152	116	31%
Europe	504	506	516	539	611	479	447	463	439	437	422	3%
Asia Oceania	73	77	85	60	53	118	78	53	107	78	102	-23%
Total OECD	745	754	742	734	842	712	661	612	708	666	640	4%
Gasoil/Diesel												
Americas	67	77	124	63	130	125	204	273	286	60	77	-22%
Europe	1340	1381	1378	1382	1453	1274	1449	1453	1560	1345	1257	7%
Asia Oceania	196	194	254	256	232	313	229	246	168	266	254	5%
Total OECD	1602	1653	1755	1701	1815	1712	1881	1971	2014	1671	1588	5%
Heavy Fuel Oil												
Americas	149	131	161	161	195	130	149	157	172	120	146	-18%
Europe	477	240	231	227	249	211	186	144	234	185	305	-39%
Asia Oceania	153	146	162	156	151	149	103	127	121	63	199	-69%
Total OECD	779	517	554	544	595	490	438	429	527	368	650	-43%
Other Products												
Americas	652	717	679	658	699	637	532	651	383	548	734	-25%
Europe	774	1009	1036	975	1130	981	1019	1089	1003	965	1087	-11%
Asia Oceania	348	255	265	250	255	279	258	266	254	253	277	-9%
Total OECD	1774	1981	1980	1883	2085	1897	1809	2005	1640	1765	2097	-16%
Total Products												
Americas	1802	1862	1908	2095	2194	1547	1655	1838	1560	1558	1864	-16%
Europe	3988	4104	4115	4047	4304	3909	4054	4216	4228	3734	4215	-11%
Asia Oceania	2331	2304	2450	2371	2292	2597	2286	2455	2313	2092	2522	-17%
Total OECD	8121	8270	8473	8513	8790	8053	7994	8508	8101	7384	8601	-14%
Total Oil												
Americas	6344	6223	5666	6180	6100	4770	4582	5229	4265	4221	5625	-25%
Europe	13241	13815	13650	13511	14031	13361	13860	14085	14168	13358	13321	0%
Asia Oceania	8991	9147	9148	8942	8805	9458	9186	9172	9824	8625	8802	-2%
Total OECD	28575	29186	28465	28633	28936	27589	27628	28486	28256	26203	27748	-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.

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Next Issue: 12 July 2019