

Oil Market Report

15 May 2019

HIGHLIGHTS

- **Our 2018 oil demand growth estimate has been revised down by 70 kb/d to 1.2 mb/d and our 2019 forecast is reduced by 90 kb/d to 1.3 mb/d.** Revisions for 2018 impacted mainly non-OECD Asia and African countries. The 2019 revision is seen in OECD Asia in 1Q19.
- **Non-OECD countries will drive global oil demand in 2019, adding 1.1 mb/d of growth, with China and India growing by 0.7 mb/d.** Net OECD growth will be 0.2 mb/d, led by the US. Global oil demand will average 100.4 mb/d in 2019.
- **In April, global oil supply fell 300 kb/d, with Canada, Kazakhstan, Azerbaijan and Iran leading the losses.** At 99.3 mb/d, output was up 775 kb/d on a year ago. In 2019, non-OPEC supply will grow 1.9 mb/d versus 2.8 mb/d last year.
- **OPEC crude output rose 60 kb/d in April to 30.21 mb/d as higher flows from Libya, Nigeria and Iraq offset Iranian losses.** Effective spare capacity was 3.2 mb/d, with Saudi Arabia holding 70%. The call on OPEC is 30.9 mb/d in 2Q19, falling to 30.2 mb/d for 2H19.
- **In 2Q19, refining throughput is seeing a third consecutive quarter of lacklustre growth, but is expected to climb by 1 mb/d a month between May and August.** A limited impact on refining activity in Europe is expected from the Druzhba pipeline disruption.
- **OECD oil stocks fell by 25.8 mb in March to 2 849 mb, more than the five-year average of 4 mb owing to counter-seasonal crude draws.** In days of forward demand, stocks amount to 59.8 days, their lowest level since July 2018.
- **ICE Brent rose to a five-month high of \$74.57/bbl in late April after the end of US waivers on Iranian exports, but has since fallen by 6%.** Gasoline strengthened in April ahead of the peak demand season. Cracks for other products fell due to higher crude prices.

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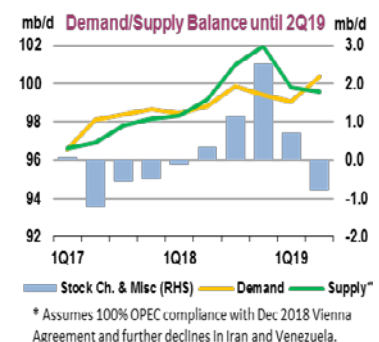
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Markets remaining calm

The theme we identified in last month's *Report* of "mixed signals" is appropriate again this month, with geopolitics and industry disruptions confusing the supply outlook, and the first change to our 2019 demand outlook for several months. The ongoing geopolitical supply concerns around Libya, Iran, and Venezuela have been joined in the past few days by the attacks on shipping off Fujairah and on two pumping stations in Saudi Arabia. At the time of writing, there is no disruption to oil supplies and prices are little changed. The IEA is monitoring the situation, particularly in view of the proximity of Fujairah to the strategically vital Strait of Hormuz. We are also monitoring the impact of the contamination of Russian crude oil passing through the 1.4 mb/d Druzhba pipeline system. The issue will be resolved in due course, eased by commercial and government stock draws by Russia's customers. One consequence could be a loss of confidence in the quality of the crude flows and thus a search, where feasible, for alternative supplies that could intensify price pressures for heavy/medium sour crude oil.

Despite the difficult geopolitical backdrop and other supply problems, headline oil prices are little changed from a month ago at just above \$70/bbl for Brent. In the intervening period, the decision by the United States to cease the waiver programme for buyers of Iran's crude oil did see Brent briefly reach \$75/bbl. However, there have been clear and, in the IEA's view, very welcome signals from other producers that they will step in to replace Iran's barrels, albeit gradually in response to requests from customers. There is certainly scope for other producers to step up production with our data showing that in April parties to the Vienna Agreement collectively produced 440 kb/d less than they promised, with Saudi Arabia producing 500 kb/d below its allocation. Of course, as we wrote in the February edition of this *Report*, there are quality issues for refiners used to processing Iranian barrels and the fact that increases in output come at the cost of reducing the global spare capacity cushion.

In this *Report*, there is a modest offset to supply worries from the demand side. Our headline growth estimate for 2019 has changed little since the middle of last year, but this month we cut it by 90 kb/d to a still healthy 1.3 mb/d. The reduction is mainly concentrated in 1Q19 on weaker than expected data for Brazil, China, Japan, Korea, Nigeria, and elsewhere lowering growth by 410 kb/d versus our last *Report*. Even so, slower demand growth is likely to be short-lived, as we believe that the pace will pick up during the rest of the year. An important implication of our revised demand data is that in 1Q19 the oil market saw an implied surplus of supply over demand of 0.7 mb/d, which was higher than previously suggested. As we move through 2Q19, while there is considerable uncertainty on the supply side, it is highly likely that the implied balance will flip into an indicative deficit of about the same size. Stocks in the OECD at the start of April have fallen back to the level seen in July in terms of days of forward cover and other stock indicators are pointing in the same direction.



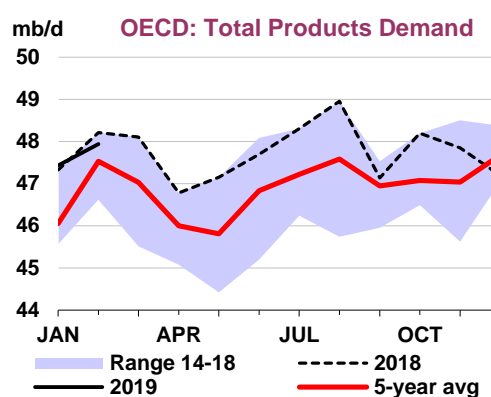
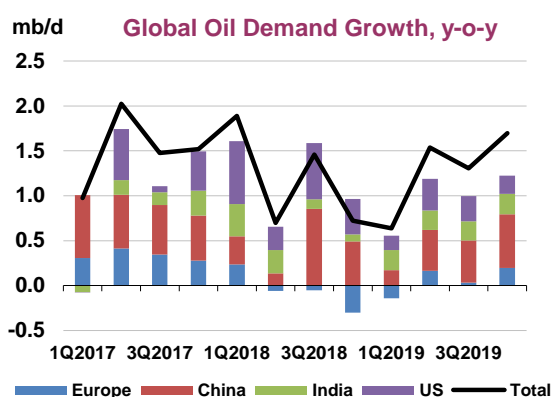
For now, despite all the supply uncertainty, headline Brent oil prices are little changed from a month ago. However, the backwardation has steepened considerably and front month prices are about \$3/bbl higher than for six months out. The decline of 230 kb/d in the North Sea loading programme for June versus May, although not a surprise, is another important factor adding to overall concerns about supply. Elsewhere, contract prices are rising sharply with Asian customers paying significantly more for barrels from Middle East sources as they seek to replace their normal supplies of Iranian crude. Basrah Light, for example, was reported as offered at its highest level for nearly eight years.

The IEA is reassured to see that the challenges posed by the supply uncertainties are being managed and we hope that major players will continue to work to ensure market stability.

DEMAND

Summary

This month, 2018 global oil demand growth estimates have been revised down by 70 kb/d to 1.2 mb/d and the 2019 forecast by 90 kb/d to 1.3 mb/d. The changes reflect lower-than-expected 2018 data in large consuming nations such as Egypt, India, Indonesia and Nigeria. Also, early 2019 data for Brazil, China and Japan were below our earlier estimates. The bulk of the adjustments occurred in non-OECD countries; however, it is hard to find a common thread. In Brazil, China and Nigeria, a recent economic deceleration appears to be responsible. In Egypt, fuel switching to natural gas in the power sector reduced fuel oil requirements. OECD Asia oil demand was also revised down in 1Q19, as a warmer-than-usual winter season dampened demand for kerosene. For individual products, gasoline and gasoil/diesel, both predominantly transport fuels, saw the largest decreases in our growth expectations.



The full picture for 1Q19 is not yet available, however so far data point to lower-than-expected demand. Growth in 1Q19 was 640 kb/d y-o-y, down from last month's forecast of 1 mb/d. However, the total figure hides different realities between OECD and non-OECD countries. Oil demand in non-OECD countries increased 930 kb/d y-o-y, contributed by China, India and Russia. In the OECD, it fell by a significant 300 kb/d, the second straight quarterly decrease. Within the OECD, Europe and Asia Oceania saw demand fall whereas in the Americas the continuing dynamism of the petrochemical industry bolstered oil consumption.

Global Oil Demand (2017-2019)

	(million barrels per day)*														
	1Q17	2Q17	3Q17	4Q17	2017	1Q18	2Q18	3Q18	4Q18	2018	1Q19	2Q19	3Q19	4Q19	2019
Africa	4.4	4.3	4.2	4.3	4.3	4.3	4.3	4.2	4.3	4.3	4.4	4.4	4.2	4.4	4.3
Americas	30.9	31.6	31.7	31.8	31.5	31.6	31.7	32.3	32.1	31.9	31.7	32.1	32.6	32.3	32.2
Asia/Pacific	34.2	34.0	33.4	34.6	34.1	35.0	34.7	34.3	35.1	34.8	35.4	35.3	35.1	36.1	35.5
Europe	14.6	15.0	15.5	15.2	15.1	14.8	15.0	15.5	14.9	15.0	14.7	15.2	15.5	15.1	15.1
FSU	4.3	4.5	4.7	4.6	4.5	4.5	4.6	4.9	4.8	4.7	4.7	4.7	5.0	5.0	4.8
Middle East	8.2	8.7	8.9	8.2	8.5	8.2	8.5	8.8	8.2	8.4	8.3	8.7	8.9	8.3	8.5
World	96.6	98.1	98.4	98.7	98.0	98.4	98.8	99.9	99.4	99.1	99.1	100.3	101.2	101.1	100.4
Annual Chg (%)	1.0	2.1	1.5	1.6	1.6	2.0	0.7	1.5	0.7	1.2	0.6	1.6	1.3	1.7	1.3
Annual Chg (mb/d)	1.0	2.0	1.5	1.5	1.5	1.9	0.7	1.5	0.7	1.2	0.6	1.5	1.3	1.7	1.3
Changes from last OMR (mb/d)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	-0.2	-0.1	-0.4	-0.1	0.0	-0.1	-0.2

* Including biofuels

While early 2019 data has led us to revise our annual oil demand growth forecast to 1.3 mb/d, the pace is likely to pick up significantly during the rest of the year. In other words, 1Q19 will end up being a tough quarter rather than the start of a new trend. Non-OECD countries will continue to drive overall oil demand in 2019 and be responsible for 1.1 mb/d of growth. In the OECD, there will be growth of

210 kb/d principally supported by the Americas. Oil demand is expected to average 100.4 mb/d overall, the first time it reaches the 100 mb/d level on an annual basis.

Global Demand by Product

(thousand barrels per day)

	Demand			Annual Chg (kb/d)		Annual Chg (%)	
	2Q18	3Q18	4Q18	3Q18	4Q18	3Q18	4Q18
LPG & Ethane	11,971	12,107	12,442	750	322	6.6	2.7
Naphtha	6,119	6,198	6,332	-4	-185	-0.1	-2.8
Motor Gasoline	26,216	26,670	26,305	188	394	0.7	1.5
Jet Fuel & Kerosene	7,679	8,025	7,736	373	86	4.9	1.1
Gas/Diesel Oil	28,614	28,356	28,891	165	250	0.6	0.9
Residual Fuel Oil	6,900	6,952	6,703	-38	-194	-0.5	-2.8
Other Products	11,313	11,564	10,985	25	51	0.2	0.5
Total Products	98,812	99,872	99,394	1,460	723	1.5	0.7

Fundamentals

We have incorporated the International Monetary Fund's April economic projections in our model. It makes little difference for the major economies as we had already downgraded our expectations in last month's *Report*. For other economies, the addition of small downward revisions resulted in slightly lower growth. The general assumption remains that, after a period of weakness at the end of 2018 and in 1Q19, world economic activity is likely to pick up in 2H19 and into 2020. Patient monetary policies and fiscal stimulus should contribute to support growth. Recent economic indicators appear to support this assumption; prompt data show stabilisation or some rebound in economic activity in some key areas. Rising trade tensions, however, represent the main threat to the currently fragile rebound.

China's recent policy measures appear to have had some effect on economic activity. The government called for an increase in infrastructure spending and the National Development and Reform Commission accelerated the approval of projects presented by provinces. Personal income tax, import tariffs and corporate taxes were also cut. The government reduced value added tax further. The OECD estimates that the stimulus in 2019 could represent 4.3% of Chinese gross domestic product. Chinese economic activity started to react positively to the stimulus and economic growth reached 6.4% in 1Q19, unchanged from 4Q18. More significantly, industrial production rose by 8.5% y-o-y in March, the highest growth since early 2014. China's National Bureau of Statistics Purchasing Managers' Index (PMI) points to an expansion in industrial activity, reaching a five-month high of 50.5 in March. However, the Chinese rebound remains fragile and the April PMI declined to 50.1, even if it was still above 50 and thus in expansion territory.



China's trading partners in Asia also seem to be doing slightly better. In Japan, the April manufacturing PMI ended at 50.2, the first reading above 50 in three months. Several South East Asian countries saw an improvement in PMI in April. Investments from China and the US are surging as trade tensions trigger a reorganisation of supply chains. Exports from Japan, Korea, Thailand and Vietnam to China have fallen, whereas exports to the US have increased.

European figures were also more positive than in recent months, with GDP growth reported at 0.4% in 1Q19. Italy saw growth and moved out of recession. German industrial production rose unexpectedly by

0.5% m-o-m in March after growth of 0.4% in February. German trade data also surprised on the upside, with exports increasing by 1.5% m-o-m in March and 1.9% y-o-y, after a drop of 1.3% m-o-m in February.

Trade disputes remain, however, the major threat to world growth. Global trade has continued to fall, despite improved container traffic following the Chinese New Year celebrations. On 10 May, the US finally decided to increase tariffs on Chinese goods to 25%, citing unsatisfactory progress in the negotiations. Higher tariffs have been applied to goods shipped from 10 May onwards. China's State Council announced on 13 May an increase in tariffs applied to \$60bn of US goods starting 1 June. The US has also said it could apply 25% tariffs on imports from China not yet covered from July 2019 (\$325bn worth). The escalation in trade tensions between the US and China is likely to reduce global economic growth. The OECD estimates that initial trade measures implemented in July and September 2018 cut both China and US GDP by a quarter of a percentage point. The latest tariff increase announced on 10 May could double the impact to half a percentage point by 2020. In addition, if all Chinese exports were subject to 25% tariffs, which could happen in July, the GDP impact would be three quarters of a percentage point decline by 2020. World trade would be 1% lower while combined Chinese and US imports would be 2% lower. Needless to say, such a downward revision to GDP and trade growth would have negative implications for oil demand.

This month, we have revised our oil price assumption, based on the forward curve, to \$68.2/bbl compared with the previous *Report's* value of \$66.8/bbl, although this will not significantly affect oil demand. On balance, this year's oil prices to date show a decline of around 4.5% from the same period in 2018, a supportive factor for oil consumers.

In February and March, temperatures were low in the US with heating degree-days (HDDs) 10% above last year. However, in April, temperatures were higher and HDDs down 32% y-o-y. In Europe, the weather was warm in February-March and cold in April. In France, for example, HDDs were 27% lower y-o-y in February-March and 37% higher in April. In Germany, HDDs were 31% lower y-o-y in February-March but 53% higher in April. This had a small impact on our overall oil demand figures.

OECD

OECD Demand based on Adjusted Preliminary Submissions - March 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*	10.96	-2.2	2.11	3.7	4.87	1.4	0.55	-4.5	0.58	-2.9	6.54	1.9	25.60	-0.1
US50	9.24	-2.2	1.80	4.5	3.98	1.3	0.24	1.3	0.21	-7.6	5.07	1.0	20.53	-0.2
Canada	0.77	-1.8	0.15	-1.5	0.26	4.9	0.25	-10.4	0.06	32.1	0.79	7.4	2.27	1.6
Mexico	0.79	-2.6	0.09	0.0	0.39	0.9	0.03	-4.7	0.18	-8.3	0.54	3.4	2.03	-0.8
OECD Europe	1.91	1.2	1.43	0.1	4.88	-2.5	1.44	-12.2	0.90	-0.1	3.32	-3.3	13.88	-2.9
Germany	0.51	2.7	0.20	-1.8	0.72	-1.6	0.39	-13.6	0.09	-7.8	0.46	9.0	2.36	-1.3
United Kingdom	0.25	6.7	0.36	-0.8	0.49	7.1	0.14	-3.6	0.02	2.1	0.29	-3.8	1.56	1.9
France	0.18	2.0	0.16	2.4	0.68	-6.9	0.25	-10.0	0.05	-10.0	0.33	-9.5	1.65	-6.3
Italy	0.15	-4.4	0.10	6.2	0.49	-4.8	0.07	-7.2	0.06	-19.7	0.32	-11.0	1.20	-6.7
Spain	0.11	-1.1	0.13	1.1	0.48	-1.1	0.18	-1.7	0.16	7.0	0.29	7.9	1.35	1.8
OECD Asia & Oceania	1.52	-1.5	0.96	1.0	1.42	-2.3	0.51	-4.5	0.57	-6.0	2.90	-6.0	7.88	-3.5
Japan	0.84	-2.7	0.55	-1.7	0.44	-2.3	0.35	-9.3	0.32	2.0	1.38	-4.8	3.89	-3.6
Korea	0.22	4.1	0.20	7.5	0.40	2.8	0.10	15.8	0.21	-17.9	1.25	-8.1	2.39	-4.4
Australia	0.32	-2.2	0.16	3.1	0.50	-5.8	0.00	0.0	0.03	2.8	0.18	0.0	1.19	-2.8
OECD Total	14.38	-1.7	4.51	2.0	11.17	-0.8	2.51	-9.1	2.05	-2.6	12.75	-1.3	47.37	-1.5

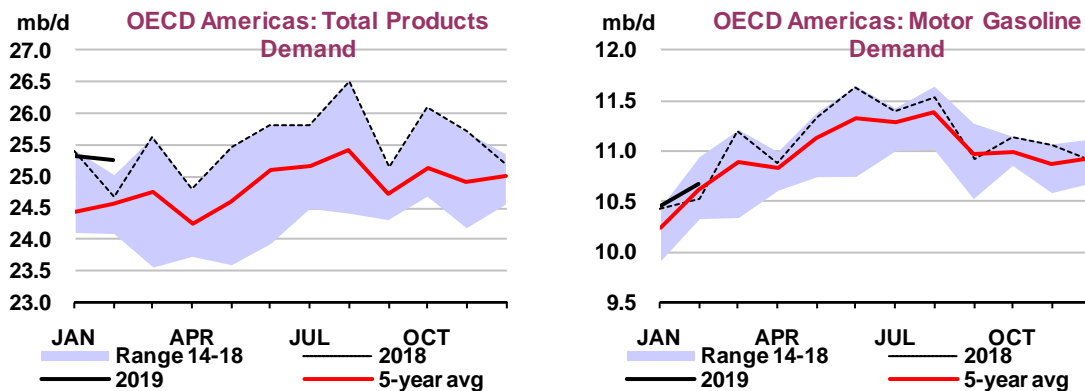
* Including US territories

We now have complete data for OECD countries up to February 2019. For March 2019, preliminary estimates are available for Mexico, Japan, Korea and some European countries. US weekly data are

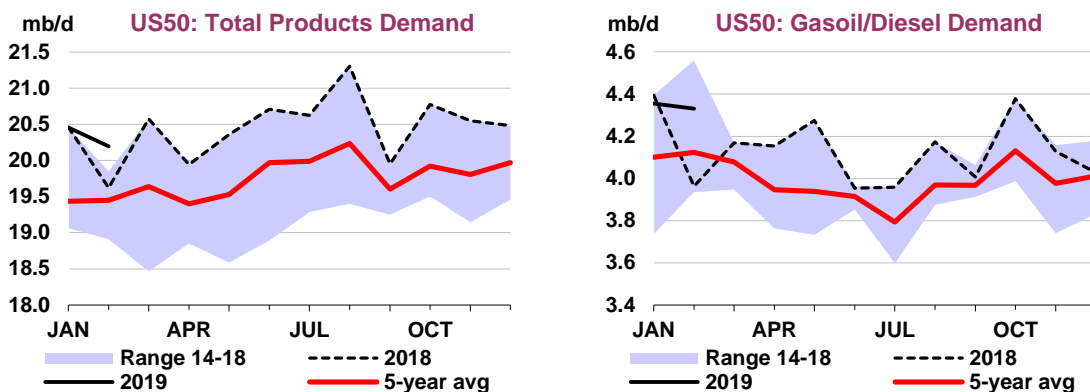
available through to the end of April. Historical data for France in 2017 and for the UK in 2018 have been revised up, by 30 kb/d and 10 kb/d, respectively.

Gasoline demand in OECD countries declined by 1.7% y-o-y in March, according to the data, and diesel demand was down by 0.8%. Other gasoil demand, mainly heating oil, was 12% below last year's level in Europe on higher temperatures. Jet/kerosene was the only fuel showing growth in the OECD, with demand rising by 2% y-o-y. German figures were not available and were thus estimated.

OECD Americas



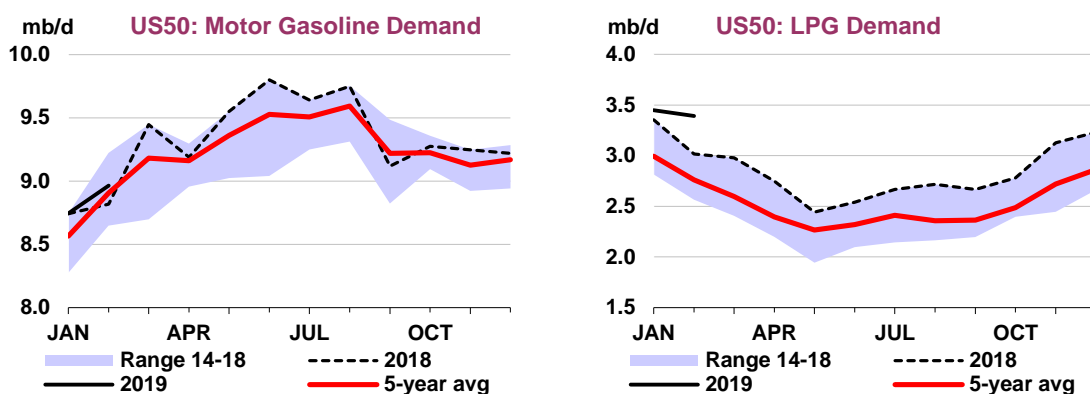
US oil demand growth in 1Q19 was essentially unchanged, as revisions for various fuels offset each other. After an expansion of 400 kb/d in 4Q18, total demand growth slowed to 165 kb/d in 1Q19. LPG/ethane demand growth is estimated at 205 kb/d y-o-y in 1Q19, due to the start-up of ethane crackers. Ethane demand rose to 1.7 mb/d in February, from 1.6 mb/d in January, a growth of 355 kb/d y-o-y. The commissioning of new petrochemical projects will add 180 kb/d of growth in 2019.



Gasoil demand growth remained at 120 kb/d y-o-y in 1Q19, close to the growth of 130 kb/d in 4Q18 but slowing from 235 kb/d in 3Q18. Demand accelerated in February, rising by 370 kb/d y-o-y, supported by colder weather. Heating degree days in February were 16% higher than last year. Diesel demand growth should slow in the next few months, in comparison to the very strong demand recorded in 2018. Truck transport demand in 2018 was supported by the growth in e-commerce and booming economic activity, but industrial production started to slow from October 2018. In March 2019, US industrial production rose by 2.8% y-o-y compared with growth of 5.3% in August/September. Booming shale oil production in 2018 also contributed to higher diesel demand, using trucks for the transport of equipment, sand and water for fracking. Trucks moved crude out of some producing areas. Gasoil/diesel demand increased by 200 kb/d in 2018 but is expected to expand by only 10 kb/d in 2019, as industrial production growth slows and new pipelines reduce the demand for long-distance trucking. In addition, there is historically a strong relationship between external trade and diesel demand.

US gasoline demand declined by 25 kb/d y-o-y in 1Q19. Vehicle miles travelled fell by 0.4% in February, according to the Federal Highway Administration. Adverse weather conditions (the so called “bomb cyclone storms”) penalised traffic in February and March. The strong price increase experienced in 2018 cut gasoline demand growth by 10 kb/d. In 2019, the forward curve points to slightly lower prices; therefore, we expect gasoline demand to rebound during the rest of 2019, with annual growth close to 60 kb/d.

Jet fuel demand rose by 45 kb/d y-o-y in 1Q19. Domestic air traffic (revenue passenger kilometres or RPK) rose by 4.5% in February, with growth accelerating to 6.3% in March. It is the strongest growth seen since early 2016, reflecting booming economic activity and low unemployment.

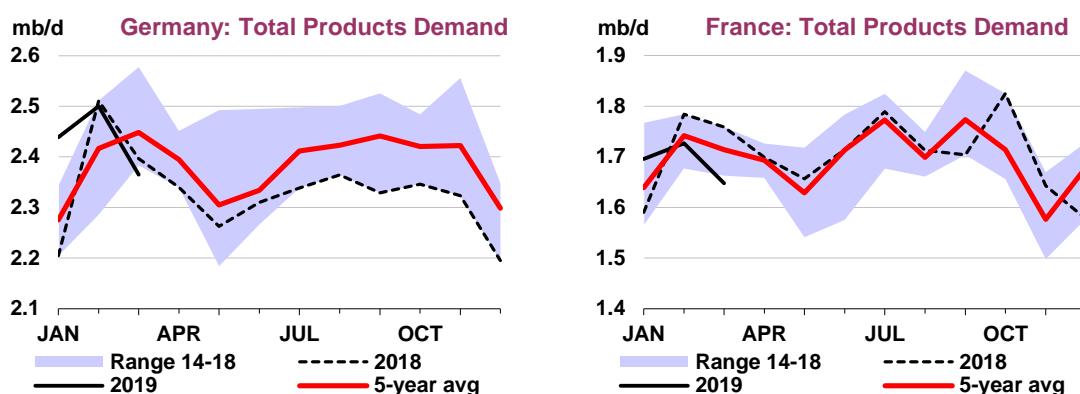


Canada's oil consumption remained roughly unchanged y-o-y in February, on low LPG/ethane and naphtha demand. Overall, demand is set to contract by 20 kb/d in 1Q19. **Mexico's** demand rose slightly in February, as an increase in naphtha demand offset a decline in LPG use.

Total North American oil demand will see a slowdown in 2019 to 265 kb/d, after rising strongly by 475 kb/d in 2018. Of this, 195 kb/d will come from LPG/ethane while gasoline demand should see a rebound from a weak 2018.

OECD Europe

European oil demand declined significantly y-o-y at the end of 2018 and in 1Q19, as economic activity decelerated. In particular, it recorded strong declines in LPG, naphtha and diesel demand.



German oil demand rose by 65 kb/d y-o-y in 1Q19 after a drop of 140 kb/d in 4Q18. Gasoil demand increased by 50 kb/d on high heating oil deliveries, mainly as a result of reduced logistical constraints. Water levels on the Rhine rose in December following the low figures recorded at the end of 2018. In 1Q19, heating oil deliveries were 35 kb/d higher y-o-y. Diesel demand, on the other hand, has been

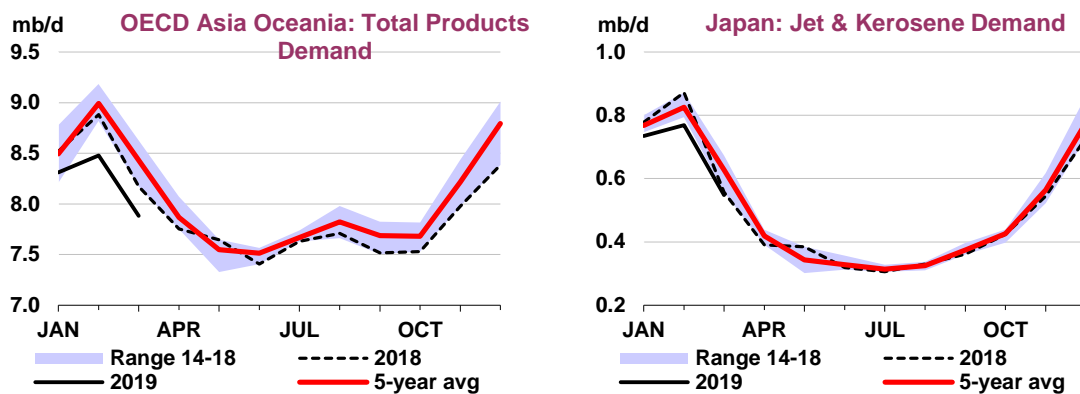
reduced because of slowing economic activity and lower sales of diesel cars linked to concerns about pollution. German GDP growth declined by 0.2% in 3Q18 and was flat in 4Q18. In 1Q19, there was likely an improvement as industrial production rebounded and the country's diesel deliveries rose 15 kb/d.

Oil demand in **France** declined by 20 kb/d in 1Q19. Total demand declined by 60 kb/d in February and provisional data indicate a drop of 110 kb/d in March on weak gasoil deliveries. In **Italy**, oil demand dropped sharply in 1Q19 on low economic activity. Total demand is believed to have declined by 120 kb/d in 1Q19 after being stagnant (+5 kb/d) in 4Q18.

Overall, European oil demand fell by 300 kb/d y-o-y in 4Q18 and 145 kb/d in 1Q19. For 2018 as a whole, European oil fell slightly but there will be a rebound in 2019 to growth of 65 kb/d.

OECD Asia Oceania

OECD Asia Oceania demand declined by 360 kb/d y-o-y in 4Q18 and by 300 kb/d in 1Q19. The slowdown impacted almost all products. **Japanese** oil demand fell by 165 kb/d y-o-y in 4Q18, as slowing economic activity reduced demand across the board. Demand in Japan is set to post a steeper drop in 1Q19 of 195 kb/d. Warmer than normal weather has impacted kerosene consumption.



In February, Japan's air passenger traffic rose by 2.6% y-o-y, and in March the pace accelerated to 4.2%. Kerosene deliveries, however, remained 100 kb/d below the previous year in February and 10 kb/d in March. Japanese oil demand fell by 115 kb/d in 2018 and is projected to fall by 80 kb/d in 2019.

Korean demand dropped by 220 kb/d in 4Q18 and is estimated to have fallen again in 1Q19 by 100 kb/d. The Korean economy is very dependent on exports to China and has suffered from the recent slowdown in Chinese industrial production and exports. In **Australia**, oil demand rose by 25 kb/d y-o-y in 4Q18 on strong diesel deliveries but dropped by 15 kb/d in 1Q19.

OECD Asia Oceania oil demand contracted by 140 kb/d in 2018 and is expected to fall by a further 120 kb/d in 2019, suffering from a regional economic slowdown and trade tensions.

Non-OECD

Non-OECD countries will be the engine of global oil demand growth in 2019, responsible for 1.1 mb/d out of the 1.3 mb/d overall y-o-y increase that we forecast, a higher proportion than in recent years. China (+420 kb/d), India (+220 kb/d) and the rest of Asia (+170 kb/d) will see the largest growth due to a booming economy driven by the expansion of the middle class. The Former Soviet Union (+120 kb/d) and the Middle East (+100 kb/d) will continue to grow steadily during the year amid reviving economies. African oil demand will increase by 70 kb/d, a higher rate of growth than in recent years. By contrast, we forecast negligible growth in non-OECD Europe (+20 kb/d) and a decline in Latin America (-30 kb/d) linked to economic troubles in Brazil and Venezuela.

Non-OECD: Demand by Product

(thousand barrels per day)

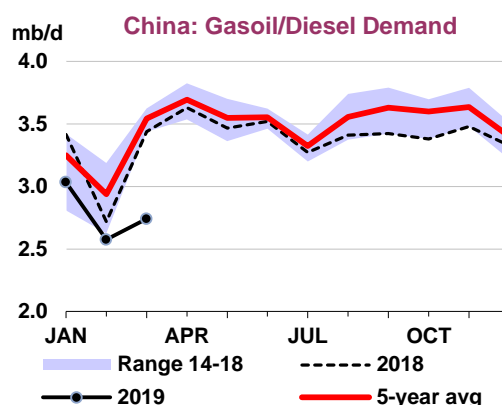
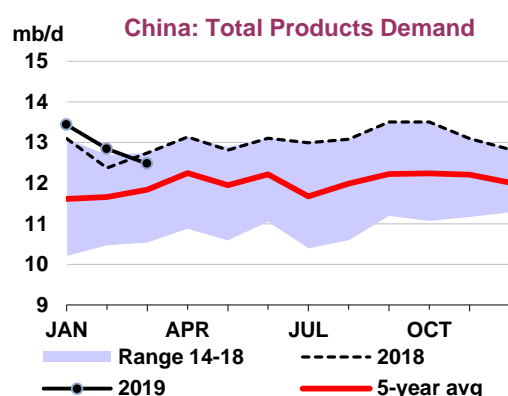
	Demand			Annual Chg (kb/d)		Annual Chg (%)	
	2Q18	3Q18	4Q18	3Q18	4Q18	3Q18	4Q18
LPG & Ethane	6,841	6,830	6,866	314	153	4.8	2.3
Naphtha	2,936	2,923	3,070	184	154	6.7	5.3
Motor Gasoline	11,379	11,737	11,806	339	431	3.0	3.8
Jet Fuel & Kerosene	3,354	3,477	3,263	220	97	6.7	3.1
Gas/Diesel Oil	14,989	14,722	14,897	11	121	0.1	0.8
Residual Fuel Oil	4,840	4,815	4,661	-104	-61	-2.1	-1.3
Other Products	7,270	7,231	7,089	46	167	0.6	2.4
Total Products	51,608	51,735	51,652	1,010	1,061	2.0	2.1

Figures available for 1Q19 point to slower than expected growth in China, parts of the Middle East and Latin America. China, responsible for one third of the expected growth in global oil consumption in 2019, grew by 170 kb/d y-o-y in 1Q19, a notably slower rate than we expect for the rest of the year. The same phenomenon was seen in Latin America, where we estimate that oil demand fell 50 kb/d in 1Q19. However, growth has been robust in India (+230 kb/d), the rest of Asia and in Russia. We expect growth for non-OECD countries to pick up from 930 kb/d in 1Q19 to average 1.1 mb/d for the full year, on improved economic activity in many countries.

In this *Report*, non-OECD demand growth has been revised down by 70 kb/d in 3Q18, 160 kb/d in 4Q18 and 300 kb/d in 1Q19 following the receipt of revised data for countries as varied as India, Indonesia, Nigeria and Egypt. Data for March for China were also lower than expected. Elsewhere, growth was stronger than expected in Hong Kong, Russia and Saudi Arabia.

China

Chinese apparent oil demand fell by 270 kb/d y-o-y in March, the first y-o-y decline since May 2018. This was largely driven by gasoil/diesel and gasoline, which both fell heavily y-o-y in March. It is partially a base effect, as growth in March 2018 was particularly strong. The calculation of apparent gasoil demand crucially depends on gasoil production from refiners and blenders as reported by China National Bureau of Statistics, and it was low in March.



For 1Q19 as a whole, we estimate that demand increased by 170 kb/d, led by LPG, naphtha, jet fuel and other products. Gasoil/diesel fell heavily by 420 kb/d y-o-y and gasoline by 50 kb/d, the same data showed. Overall, Chinese oil demand in 1Q19 grew by much less than anticipated in last month's *Report*. However, the economy already shows signs of growth after the slowdown at the end of last year. GDP grew by 6.4% y-o-y in the first quarter, down 0.4 percentage points from 1Q18, according to the National Bureau of Statistics. This is in line with the figure recorded in 4Q18 and was largely driven by the

implementation of a robust fiscal stimulus. There is possible downward potential for the rest of 2019 if there is not an agreed solution to the US/China trade dispute. Chinese oil demand is expected to grow by 420 kb/d on average in 2019, down just 30 kb/d from 2018's rate.

China: Demand by Product

(thousand barrels per day)

	Demand			Annual Chg (kb/d)		Annual Chg (%)	
	2017	2018	2019	2018	2019	2018	2019
LPG & Ethane	1,523	1,616	1,736	93	120	6.1	7.4
Naphtha	1,171	1,243	1,320	72	77	6.1	6.2
Motor Gasoline	2,927	2,954	2,973	27	20	0.9	0.7
Jet Fuel & Kerosene	710	800	868	90	68	12.8	8.5
Gas/Diesel Oil	3,473	3,377	3,297	-96	-79	-2.8	-2.4
Residual Fuel Oil	437	412	416	-24	4	-5.6	1.0
Other Products	2,336	2,624	2,840	288	216	12.3	8.2
Total Products	12,576	13,025	13,450	449	425	3.6	3.3

India

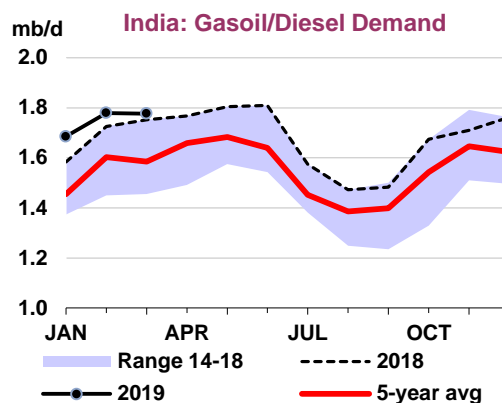
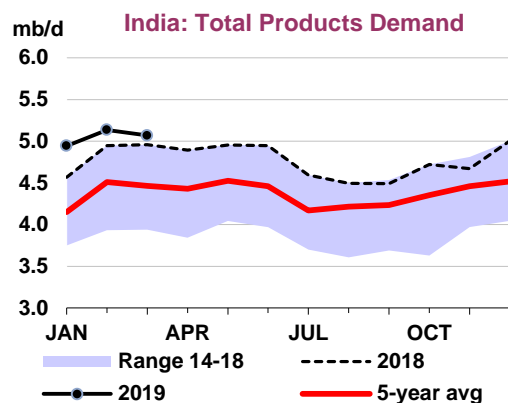
Indian oil demand rose by 230 kb/d in 1Q19, more than in China. This reflected continuing strong growth in LPG (+90 kb/d) linked to generous subsidies, part of the government's *Ujjwala* social welfare programme, as well as higher motor fuel sales related to a boom in personal mobility. Gasoline and diesel consumption both grew 60 kb/d during the quarter. Jet fuel and kerosene consumption was unchanged amid slower growth in passenger numbers and reduced kerosene use for personal cooking, itself the result of replacement by LPG. Jet Airways, one of India's top airlines, stopped operations in April due to business difficulties. The *International Air Transportation Authority* (IATA) said the country's y-o-y revenue passenger kilometre growth declined to just 3.1% in March compared with 8.3% in February and around 20% over the last few years.

India: Demand by Product

(thousand barrels per day)

	Demand			Annual Chg (kb/d)		Annual Chg (%)	
	2017	2018	2019	2018	2019	2018	2019
LPG & Ethane	740	781	834	40	53	5.5	6.8
Naphtha	283	315	327	32	12	11.4	3.6
Motor Gasoline	615	668	706	53	37	8.6	5.6
Jet Fuel & Kerosene	242	246	259	5	13	2.0	5.2
Gas/Diesel Oil	1,605	1,676	1,744	71	68	4.4	4.1
Residual Fuel Oil	145	143	145	-2	2	-1.3	1.6
Other Products	938	939	976	1	36	0.1	3.9
Total Products	4,568	4,769	4,991	201	222	4.4	4.7

Historical oil demand growth figures for India have been reduced by 70 kb/d in 4Q18 and 40 kb/d in 1Q19 as new data from the *Petroleum Planning and Analysis Cell* became available following the end of the tax year. Most of the downward adjustment was in other products. However, we have not significantly changed our projections. We forecast growth in Indian oil demand of 220 kb/d in 2019 (down from 240 kb/d in last month's *Report*), slightly more than in 2018.

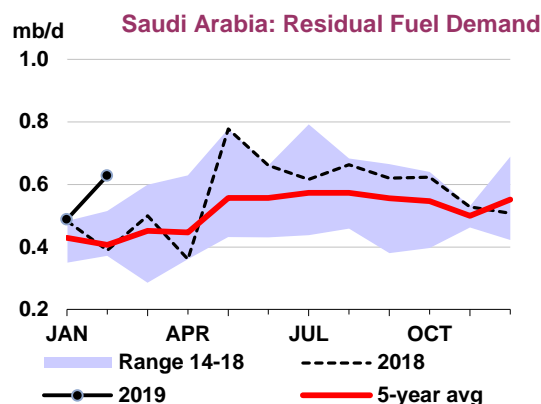
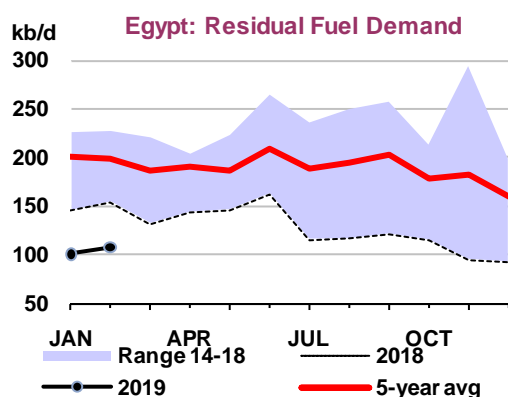


Other Non-OECD

Historical oil demand figures for Africa have been revised down by 40 kb/d in 3Q18, 70 kb/d in 4Q18 and 90 kb/d in 1Q19, following the receipt of revised data for Nigeria and Egypt. In **Nigeria**, we have downgraded oil demand by 50 kb/d in 4Q18 and 40 kb/d in 1Q19 on new Nigerian Bureau of Statistics and JODI data. JODI numbers up to February 2019 have been incorporated in our model. We expect limited growth in demand in 2019, as economic conditions remain difficult. Gasoline demand, in particular, is not expected to continue climbing as in recent years.

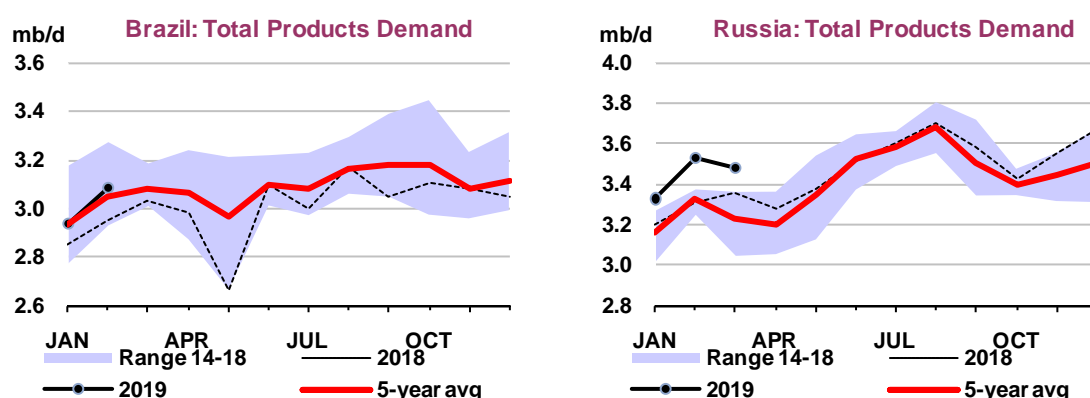
In **Egypt**, oil demand was lowered by 40 kb/d in 3Q18, 20 kb/d in 4Q18 and 30 kb/d in 1Q19 as new JODI data became available. The bulk of the downgrades occurred in fuel oil, which has been affected by the increasing availability of natural gas for power generation and higher production from the country's offshore Zohr gas field. We forecast oil demand to grow by 70 kb/d overall in Africa during 2019, the same rate of growth as in 2018.

In Asia, we have reduced our historical oil demand figures for **Indonesia** by between 10-30 kb/d on the receipt of new data for 2017. We have also received lower-than-expected February demand figures for **Pakistan**. Most of the downward adjustment of 50 kb/d was in gasoil/diesel and fuel oil. Fuel oil consumption has declined sharply ever since the government's decision to ban imports at the end of 2017 and from increased consumption of liquefied natural gas. A temporary lifting of the ban in the coming months is not expected to change the long-term outlook. Fuel demand in **Saudi Arabia** also increased significantly in recent statistics. In February, fuel oil consumption was up 240 kb/d y-o-y and in March it went up 80 kb/d.



Oil demand in **Brazil** in March was around 80 kb/d lower than we had expected. The economic outlook looks challenging with retail sales in March showing their biggest y-o-y fall since 2016. We nevertheless expect oil demand to increase by 55 kb/d in 2019, largely because of gasoline and gasoil/diesel

consumption. We also reduced our oil demand forecast for **Venezuela** in 1Q19 due to oil product shortages and the difficult economic and political situation. We now expect oil consumption to fall 100 kb/d in 2019, the fifth consecutive annual decline.



Finally, **Russian** data for March came out 120 kb/d ahead of expectations, largely because of higher fuel oil, other products and naphtha demand. We expect oil demand to grow 80 kb/d in 2019, the second straight annual increase.

Non-OECD: Demand by Region

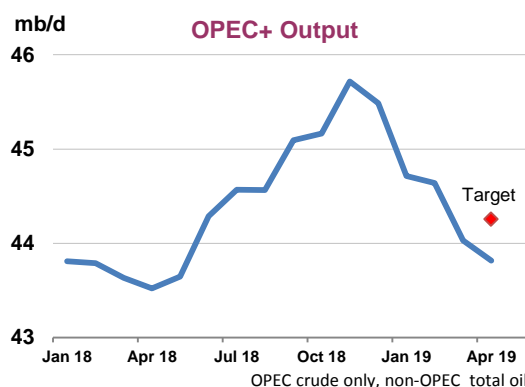
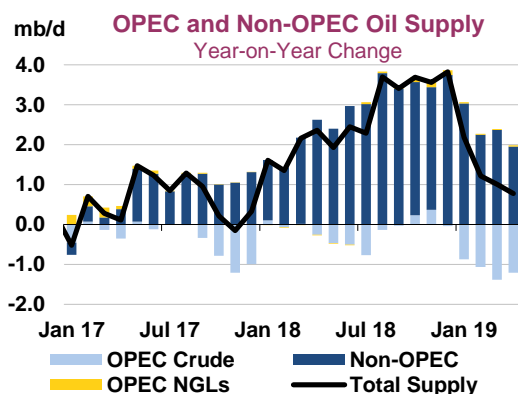
(thousand barrels per day)

	Demand		Annual Chg (kb/d)		Annual Chg (%)	
	2Q18	3Q18	4Q18	3Q18	4Q18	3Q18
Africa	4,289	4,158	4,306	-35	39	-0.8
Asia	27,058	26,688	27,106	1,062	786	4.1
FSU	4,638	4,908	4,832	178	232	3.8
Latin America	6,349	6,458	6,414	-99	-26	-1.5
Middle East	8,532	8,750	8,198	-106	-10	-1.2
Non-OECD Europe	743	772	796	11	41	1.4
Total Products	51,608	51,735	51,652	1,010	1,061	2.0

SUPPLY

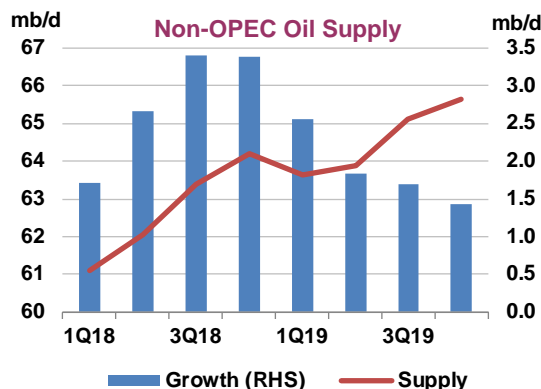
Summary

Global oil supply fell 300 kb/d to 99.3 mb/d in April, led by losses in Canada, Kazakhstan, Azerbaijan and Iran. The month-on-month (m-o-m) decline was tempered by solid gains in Brazil, the US, Libya and Nigeria. As for OPEC, higher flows from Nigeria and Libya more than offset a hefty decrease from Iran, lifting crude production by 60 kb/d to 30.2 mb/d. Non-OPEC oil supply fell 360 kb/d m-o-m to 63.6 mb/d. Compared to a year ago, global oil production was up 775 kb/d. Fuelled by the US, non-OPEC supply was up 1.95 mb/d while OPEC supply was down 1.2 mb/d.



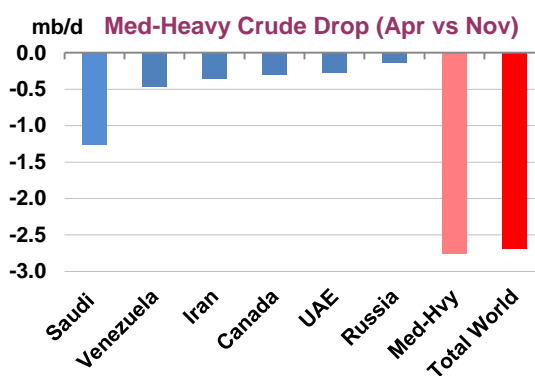
Following a decline in non-OPEC output in 1Q19 of more than 0.5 mb/d, in the second quarter heavy maintenance and continued production management is expected to keep supply well below 4Q18's record high. Kazakhstan's output likely fell further in May, while North Sea production will decline sharply in June as seasonal maintenance gets underway. Russian production is thought to have eased as compliance with agreed output cuts improved and as some output was curtailed due to contamination along the Druzhba pipeline. Growth in non-OPEC production in 2Q19 slows to 1.8 mb/d year-on-year (y-o-y) from 2.6 mb/d in 1Q19 and an even higher rate of 3.4 mb/d during 2H18.

While non-OPEC supply is expected to rebound from 2Q19 onwards, the pace of growth will ease further. A slowdown in drilling, lower capital allocations and faster base declines underpin our weaker growth projections for the US. Expansions in Canada, which averaged nearly 400 kb/d last year, have stalled and further declines are expected in the North Sea. Losses in Mexico show signs of easing and could be reversed in China following a massive boost in upstream spending. Brazil's output is set to rebound but expected growth has been revised lower following heavy outages at the start of the year and delays to the ramp-up of new units.



For the year as a whole, the pace of non-OPEC growth slows to 1.9 mb/d from 2.8 mb/d in 2018. This deceleration coupled with robust enforcement of the 1.2 mb/d production cut agreed by OPEC, Russia and nine other non-OPEC countries (OPEC+) will, in time, reverse the significant stock builds that were seen in 2018. In April, output from the OPEC+ countries was 440 kb/d below their 44.3 mb/d target, boosting compliance to 137%. The stronger performance was thanks to deeper cuts from Kazakhstan, Azerbaijan and Russia that raised non-OPEC compliance to 151%. OPEC's compliance rate was 131% as Saudi Arabia produced far below its supply target.

Looking ahead, with Iranian output set to fall following the cancellation by the US of waivers for Iran's customers, and the call on OPEC crude rising, there is scope for other producers to raise supply. The call on OPEC crude increases to 30.9 mb/d in 2Q19, roughly 700 kb/d more than was produced in April. The call then fall backs to 30.2 mb/d during the second half of the year on higher non-OPEC output. While Saudi Arabia has signalled its readiness to supply more oil should customers request it, the kingdom remains committed to its 10.3 mb/d supply target. OPEC+ is due to decide whether to extend supply cuts on 25-26 June.



In the meantime, the OPEC+ deal, US sanctions against Iran and Venezuela and Alberta's output cuts have significantly tightened supplies of medium-heavy oil. Compared to November, supply of these grades has fallen by nearly 3 mb/d. In May, medium-heavy output could fall further as Iran's exports decline after waivers end. As tension rises in the Middle East, the UAE said that on 12 May four commercial vessels, including two Saudi oil tankers, were sabotaged near the emirate of Fujairah although there was no impact on exports. On 14 May, Saudi Arabia said armed drones hit two oil pumping stations, but there was no disruption to supply.

OPEC / Non-OPEC Output¹
(million barrels per day)

	Mar 2019 Supply	Apr 2019 Supply	Supply Baseline ²	Agreed Cut	New Target	April Compliance	Sustainable Production Capacity ⁵	Spare Capacity vs Apr Supply ⁶
Algeria	1.02	1.02	1.06	0.032	1.03	116%	1.05	0.03
Angola	1.41	1.41	1.53	0.047	1.48	251%	1.50	0.09
Congo	0.36	0.35	0.33	0.010	0.32	-250%	0.35	0.00
Ecuador	0.53	0.53	0.52	0.016	0.51	-38%	0.54	0.01
Equatorial Guinea	0.12	0.12	0.13	0.004	0.12	175%	0.12	0.00
Gabon	0.22	0.20	0.19	0.006	0.18	-217%	0.20	0.00
Iraq	4.56	4.63	4.65	0.141	4.51	16%	4.90	0.27
Kuwait	2.71	2.69	2.81	0.085	2.72	140%	2.93	0.24
Nigeria ³	1.69	1.79	1.65	0.053	1.60	-264%	1.79	0.00
Saudi Arabia	9.80	9.81	10.63	0.322	10.31	256%	12.02	2.21
UAE	3.05	3.05	3.17	0.096	3.07	123%	3.39	0.34
Total OPEC 11	25.47	25.60	26.66	0.812	25.85	131%		
Iran ⁴	2.74	2.61					3.85	-
Libya ⁴	1.07	1.17					1.10	-0.07
Venezuela ⁴	0.87	0.83					0.83	0.00
Total OPEC	30.15	30.21					34.57	3.19
Azerbaijan	0.80	0.68	0.80	0.020	0.78	565%		
Bahrain	0.21	0.21	0.22	0.005	0.21	48%		
Brunei	0.13	0.13	0.12	0.003	0.11	-398%		
Kazakhstan	1.95	1.79	2.03	0.040	1.99	600%		
Malaysia	0.71	0.71	0.70	0.015	0.68	-63%		
Mexico	1.94	1.93	1.99	0.040	1.95	168%		
Oman	0.98	0.97	1.00	0.025	0.98	115%		
Russia	11.63	11.56	11.75	0.230	11.52	80%		
Sudan	0.08	0.08	0.07	0.002	0.07	-232%		
South Sudan	0.14	0.16	0.12	0.003	0.12	-1056%		
Total Non-OPEC	18.56	18.22	18.80	0.383	18.41	151%		

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

² Based on Oct-2018 production, except for Azerbaijan and Kuwait based on Sept-2018

and Kazakhstan Nov-2018. Non-OPEC supply baseline based on IEA estimates

³ Nigeria supply baseline based on IEA estimates, which exclude Akpo and Agbami condensates.

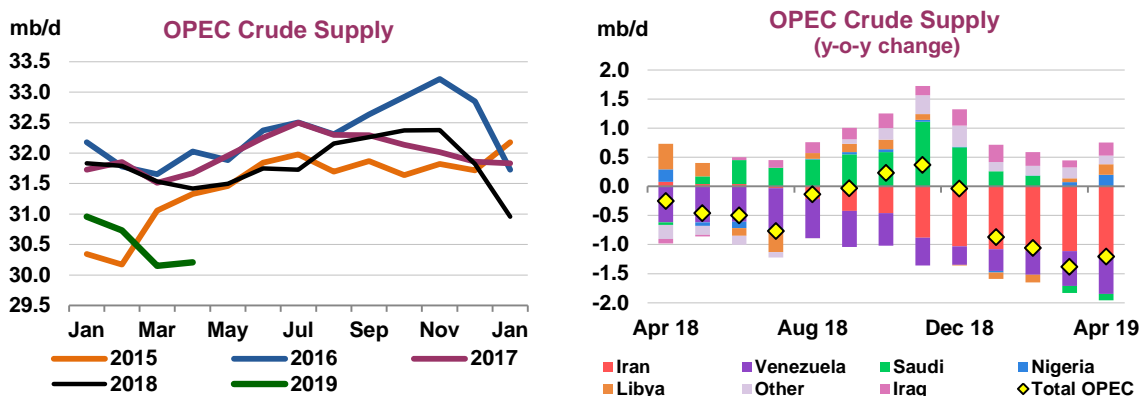
⁴ Iran, Libya, Venezuela exempt from cuts.

⁵ 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

In April, OPEC crude output rose for the first time in four months as higher supply from Libya, Nigeria and Iraq more than made up for a significant loss in Iran. Production rose 60 kb/d m-o-m to 30.21 mb/d, but was down 1.21 mb/d on a year ago. Iranian supply looks set to tumble further in May as US waivers end (see *Iran oil: waive goodbye*). Saudi Arabia held output far below its supply target during April, unchanged from March but it has indicated willingness to supply more if buyers ask for it. Production could increase by 500 kb/d before Saudi Arabia reaches its supply target. Preliminary data show the kingdom's exports rising in May.



Continued restraint from Saudi Arabia during April made for robust overall compliance from OPEC members taking part in supply cuts. Compliance eased to 131% from 147% in March as Nigeria and Iraq raised production. Higher Nigerian levels could prove short-lived due to renewed sabotage in the restive Niger Delta. Libya's recovery, which has lifted output to a six-year high, looks tenuous. OPEC's effective spare capacity during April was 3.2 mb/d, with Saudi Arabia accounting for 2.2 mb/d or 70%.

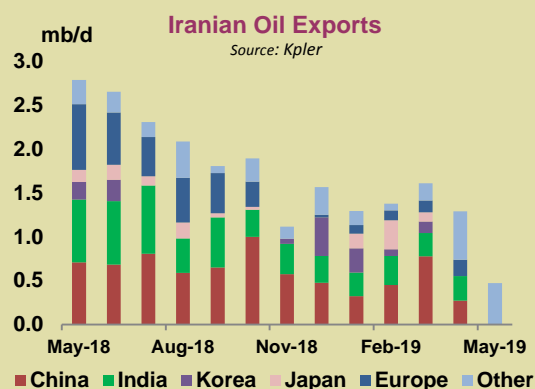
Saudi Arabia kept production broadly steady at 9.81 mb/d in April, 500 kb/d below its 10.31 mb/d OPEC+ supply target. In May, output could rise seasonally to supply more oil for use in power plants to meet higher electricity demand. As for exports, during April crude oil shipments to world markets were 6.94 mb/d, according to data from *Kpler*, down 110 kb/d m-o-m. For May, preliminary data show exports higher at 7.1 mb/d. Korea, which had been buying large volumes of Iranian condensate, appears to be lifting considerably more Saudi barrels.

On the pricing front, Saudi Aramco raised June prices for Asia as buyers seek barrels to make up for anticipated lower volumes from Iran. The kingdom raised the official selling price of flagship Arab Light crude to the biggest premium to Middle East benchmark prices in nearly a year.

Iran oil: waive goodbye?

Crude oil output in Iran fell 130 kb/d to 2.61 mb/d in April ahead of the ending of US waivers to eight buyers of Iranian oil. Already at the lowest level since September 2013, production in May could tumble to levels not seen since the 1980s war with Iraq.

Since November, when the waivers were granted to top buyers such as China and India, Iranian oil exports have averaged nearly 1.4 mb/d, sharply down on the average 2.6 mb/d that was shipped in the year to May 2018, when the US announced its withdrawal from the JCPOA. Now the US wants to reduce Iran's exports to zero.



Iran oil: waive goodbye? (continued)

During April, total exports of crude and condensates fell 320 kb/d to 1.3 mb/d, according to *Kpler* data. Shipments of crude oil declined by 130 kb/d to 1.05 mb/d, with condensates making up the remainder.

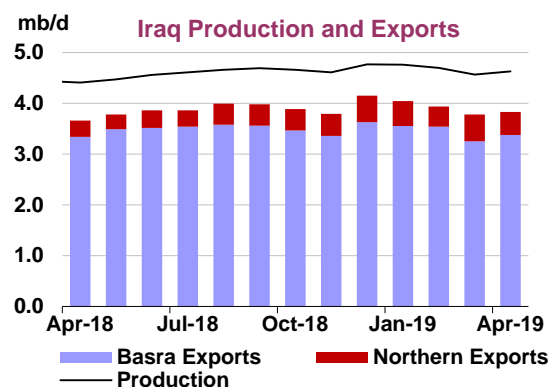
For May, early tracking shows loadings plunging to around 475 kb/d, but the final destinations are not yet known. Iran's medium-heavy crudes can be replaced by similar grades from Saudi Arabia, Iraq, Russia and the UAE. As for condensate, Qatar and Australia are well positioned to step in.

Of the eight jurisdictions that were given waivers from November until May, Italy, Greece and Taiwan did not load any Iranian barrels during the period. Iran's biggest customer China lifted 270 kb/d in April, down from a hefty 780 kb/d in March. China National Petroleum Corp (CNPC) and Sinopec reportedly are not loading Iranian oil in May.

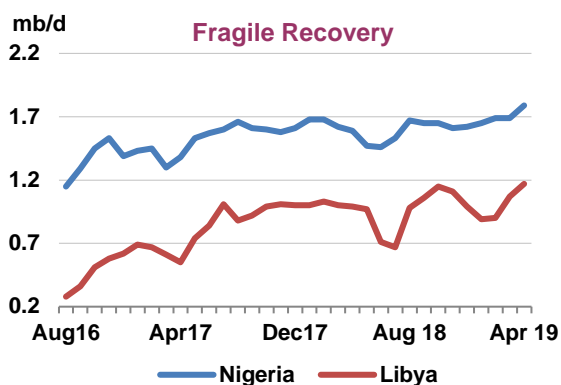
Turkey bought more in April, loading 190 kb/d versus 140 kb/d in March, claiming that it cannot diversify imports swiftly. Japan cut out liftings in April after buying 110 kb/d the previous month. India, with its complex refineries, could replace Iranian oil with similar quality Saudi and Iraqi crude. Purchases in April bumped up to 280 kb/d versus 260 kb/d in March. After buying 130 kb/d in March, Korea did not load any Iranian oil in April. Korea is the largest importer of Iran's South Pars condensate, a preferred feedstock for its petrochemical plants. It will have to seek alternative supplies that are likely to be more expensive as well as purchasing more heavy naphtha.

Elsewhere in the Gulf, supply from the **UAE** was unchanged m-o-m at 3.05 mb/d while production in **Kuwait** slipped to 2.69 mb/d. Investment continues in the UAE, where the Abu Dhabi National Oil Co is committed to boosting capacity in its Upper Zakum field to 1 mb/d over the next five years. Kuwait is also making strides in the upstream. In August it will start producing heavy oil from the Ratqa field near Iraq and intends to raise output to 60 kb/d by early 2020.

Iraq raised output in April by 70 kb/d after exports recovered and domestic requirements increased. Production of 4.63 mb/d, including the Kurdistan Regional Government (KRG), was up 220 kb/d on a year ago. As for exports, total shipments to world markets rose 50 kb/d to 3.8 mb/d as southern crude sales recovered. Exports from the Gulf were 3.38 mb/d in April, up 130 kb/d m-o-m. Oil sales from the north via the KRG-controlled pipeline to Turkey declined by 80 kb/d to around 450 kb/d.



On the upstream front, Exxon Mobil and CNPC may be closer to securing the South Iraq Integrated Project. If agreed, the 30-year, \$50 billion mega project, including the Ratawi and Nahr Bin Umar oil fields, would raise output from a combined 100 kb/d to more than 500 kb/d.



Libya and Nigeria between them delivered a 200 kb/d production increase in April, although both remain vulnerable to civil unrest. Crude supply in **Libya**, climbed 100 kb/d m-o-m to 1.17 mb/d as its biggest field Es Sharara returned to full capacity. Flows, however, are increasingly under threat as fighting escalates between the Libyan National Army (LNA) led by General Khalifa Haftar and troops loyal to the internationally recognized government in Tripoli.

In 2016, Haftar took control of much of the eastern oil network and his LNA forces this year have taken over

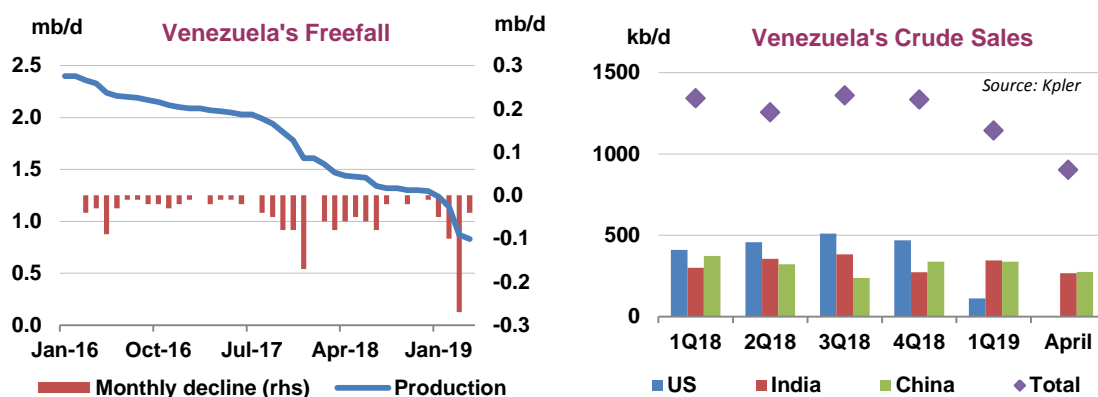
the southern El Sharara and El Feel oil fields. However, the Tripoli-based National Oil Corp is solely in charge of all oil and gas field operations and sells the crude on international markets. Libya's oil infrastructure is mainly situated in the east. However, Zawiya, the site of a 300 kb/d export terminal and refinery is a potential flashpoint in the ongoing battle.

In **Nigeria**, output rose 100 kb/d to 1.79 mb/d, the highest since November 2015, as the offshore Egina field ramps up. However, renewed sabotage on a major pipeline in the Niger Delta oil heartland may thwart the recovery. Attacks on the 150 kb/d Nembe Creek Trunk Line have disrupted loadings of Bonny Light crude. Shipments of the key grade had been running at more than 200 kb/d.

Elsewhere in Africa, production was relatively stable during April. Supply in **Angola** was unchanged at 1.41 mb/d, down 90 kb/d on a year ago, and the lowest level since November 2006. **Algerian** output was steady at 1.02 mb/d. Angola and Algeria both saw shake-ups in the management of their state oil companies. With Angola in the grip of an acute fuel shortage, Carlos Saturnino was dismissed as head of Sonangol and replaced by industry veteran Sebastiao Gaspar Martins. In Algeria, in the midst of political upheaval, interim president Abdelkader Bensalah has appointed Rachid Hachichi as the head of Sonatrach. Hachichi, who was in charge of exploration and production, said Sonatrach will focus on raising production and exports to help develop its energy dependent economy.

In **Equatorial Guinea**, output was flat versus March at 120 kb/d. Production in **Congo** dipped 10 kb/d from a March peak of 360 kb/d. Supply in **Gabon** edged down 20 kb/d to 200 kb/d in April.

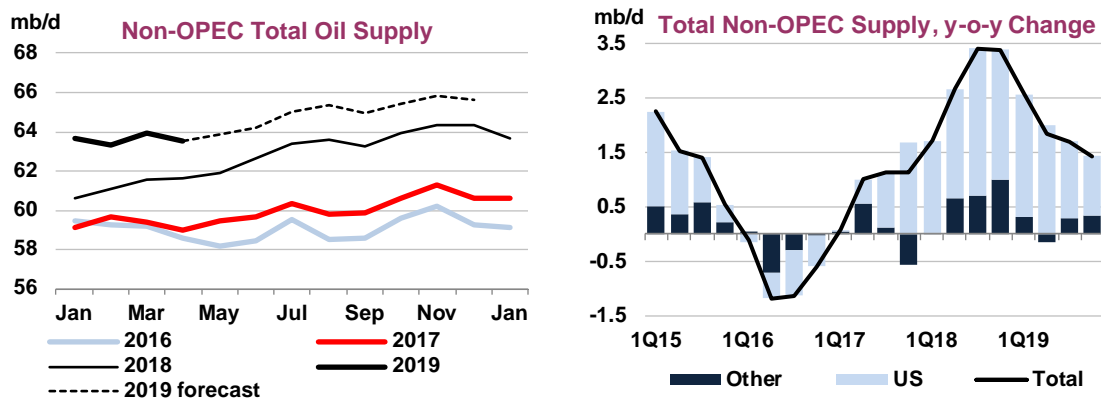
Venezuela posted OPEC's second biggest m-o-m production loss in April, declining 40 kb/d due to US sanctions and the lingering impact of power cuts. Output of 830 kb/d was down 610 kb/d on a year ago and is a third of the level at the start of 2016. The power outages in March set back operations at heavy crude upgraders run by Petroleos de Venezuela and its foreign partners and two of the four plants still reportedly are not running.



Shipments of crude from Venezuela fell 40 kb/d from March to 900 kb/d, according to *Kpler* data with exports supported by stock draws. Data show that since sanctions were announced at the end of January, shipments to the US have ground to a halt. China and India, however, have continued to lift roughly 300 kb/d each. Production in **Ecuador** was steady on March at 530 kb/d.

Non-OPEC overview

Maintenance outages in Canada, Azerbaijan and Kazakhstan and improved compliance with agreed output cuts in Russia contributed to a decline in overall non-OPEC supply in April. While a rebound in US and Brazilian production and seasonally rising biofuels output provided a partial offset, total output dropped 360 kb/d m-o-m to 63.6 mb/d. Annual growth slowed to 1.95 mb/d from 2.6 mb/d on average in 1Q19 and as much as 3.4 mb/d during the second half of 2018.



April normally marks the start of the maintenance season at Albertan oil sands facilities. The impact this year is clouded by the mandatory output restrictions in place since the start of the year. Canadian oil production is estimated to have dropped by more than 350 kb/d in April.

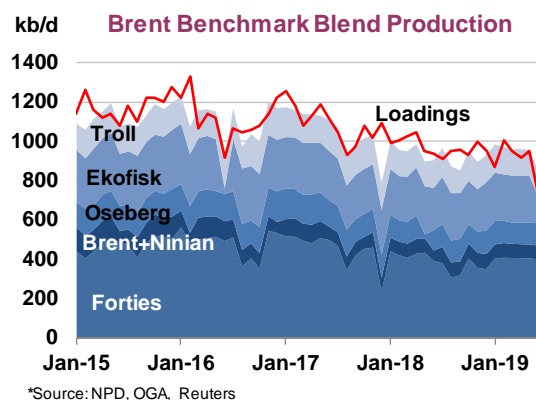
Meanwhile, in Kazakhstan the shutdown of the Kashagan field from mid-month cut production by 160 kb/d m-o-m, meaning that there was compliance with the OPEC+ output cuts for the first time. The decline will be even steeper in May, when the full impact of the shutdown is factored in. Scheduled CPC loadings dropped to 1.1 mb/d compared with more than 1.4 mb/d during 1Q19. Azerbaijan's production plunged by 115 kb/d m-o-m to 680 kb/d according to Ministry data. As such, Azerbaijan also exceeded its commitment with regards to the OPEC+ deal in April.

Russian oil companies stepped up efforts to rein in supply in April, curbing crude and condensate output by an additional 70 kb/d m-o-m to 11.23 mb/d. Total oil production was 45 kb/d above the agreed target, representing a compliance rate of 80% compared with 50% in March. Energy Minister Alexander Novak said Russia reached 100% compliance with agreed cuts by the end of the month and that output would stay at the agreed level in May. Production might decline even more sharply due to contamination along the 1 mb/d Druzhba pipeline to Europe. National oil pipeline monopoly Transneft reportedly asked oil firms to reduce production by more than 1 mb/d for several days in early May until export flows could resume. The full impact will become clearer as new data is received.

Overall non-OPEC compliance with the OPEC+ deal is estimated to have surged to 151% in April, from 61% in March.

While North Sea production was largely unchanged in April, output is expected to have fallen further in May, when the Oseberg field went offline due to an unscheduled outage and then more sharply in June, when the Ekofisk, Statfjord and Forties streams will be affected by maintenance. Loading programmes in June for the five grades (Brent, Forties, Oseberg, Ekofisk and Troll) that underpin the Brent benchmark dropped to 720 kb/d from 950 kb/d scheduled for May. North Sea production declined annually by 110 kb/d on average during the first four months of the year, as a 60 kb/d y-o-y increase in UK production failed to offset steep declines in Norway.

Norwegian oil production will get a boost next year from the start-up of the giant Johan Sverdrup field. According to Equinor, the field remains on track to start up by November.



In contrast, additional supplies are coming from the United States, Brazil and China. US oil production fell m-o-m both in January and February, as a sharp drop in prices towards the end of 2018 and freezing temperatures slowed drilling and completion activity. Maintenance in the Gulf of Mexico also impacted output. While oil prices have rebounded sharply since the end of 2018, so far there is little evidence that producers are ramping up spending or activity levels. Producers idled another 24 rigs over the past four weeks so that in early May, there were 80 fewer rigs than at the start of the year. Strong permitting activity and a recovery in fracking activity in early 2019 should support higher output in the second half of the year. US oil production is forecast to increase by 1.7 mb/d this year, of which 1.2 mb/d is crude oil. That compares with a record 2.2 mb/d and 1.6 mb/d, respectively, in 2018.

As for Brazil, following disappointing 1Q19 results, Petrobras announced in early May that maintenance had wound down and that technical issues related to the start-up of new units had been resolved. During an earnings call, the company said output had already increased sharply in April and May and that it remains on track to reach its 2019 oil and natural gas production target. Brazilian production is expected to grow by 265 kb/d on average this year, a downgrade of 60 kb/d compared with last month's *Report*.

Oil production is also on an upward trend in China. As noted in last month's *Report*, companies boosted upstream investments by a combined \$10.5 billion last year, and plan a further \$8.3 billion increase this year, in response to President Xi's call to improve national energy security by boosting domestic production and reserves. Those efforts have started to pay off, and in March Chinese crude oil output surged by nearly 100 kb/d to post its biggest year-on-year increase in more than three years. As a result, we have revised up our expectations for the year by 100 kb/d. Crude output is now seen rising 50 kb/d on average, a marked improvement on annual declines of 310 kb/d, 120 kb/d and 70 kb/d in 2016, 2017 and 2018, respectively.

Our estimate for non-OPEC supply growth in 2019 has been revised up by 125 kb/d since last month to 1.9 mb/d. That is down from a record 2.8 mb/d seen during 2018.

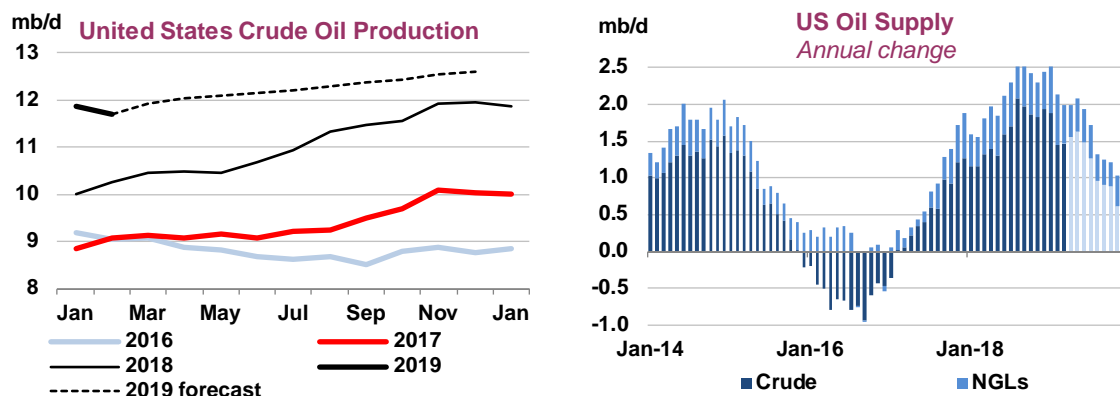
Non-OPEC Supply

(million barrels per day)

	2017	1Q18	2Q18	3Q18	4Q18	2018	1Q19	2Q19	3Q19	4Q19	2019
Americas	20.3	21.8	22.1	23.3	24.0	22.8	23.8	23.9	24.5	24.9	24.3
Europe	3.5	3.6	3.4	3.3	3.5	3.5	3.5	3.3	3.3	3.5	3.4
Asia Oceania	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.5	0.5	0.5	0.5
Total OECD	24.2	25.7	25.9	27.0	27.9	26.7	27.7	27.6	28.4	28.9	28.1
Former USSR	14.3	14.4	14.4	14.6	14.8	14.6	14.8	14.4	14.5	14.7	14.6
Europe	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
China	3.9	3.8	3.9	3.8	3.9	3.8	3.9	4.0	3.9	3.9	3.9
Other Asia	3.5	3.4	3.3	3.3	3.3	3.3	3.3	3.2	3.2	3.2	3.2
Latin America	4.5	4.5	4.5	4.4	4.6	4.5	4.5	4.7	4.9	5.0	4.8
Middle East	3.2	3.2	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3
Africa	1.4	1.4	1.5	1.5	1.4	1.4	1.5	1.5	1.5	1.5	1.5
Total Non-OECD	30.9	30.9	31.0	31.0	31.4	31.1	31.4	31.1	31.4	31.7	31.4
Processing Gains	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3
Global Biofuels	2.5	2.1	2.8	3.1	2.5	2.6	2.2	2.8	3.0	2.7	2.7
Total Non-OPEC	59.9	61.1	62.0	63.4	64.2	62.7	63.7	63.9	65.1	65.6	64.6
Annual Chg (mb/d)	0.8	1.7	2.7	3.4	3.4	2.8	2.6	1.8	1.7	1.4	1.9
Changes from last OMR (mb/d)	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.2	0.2	0.1

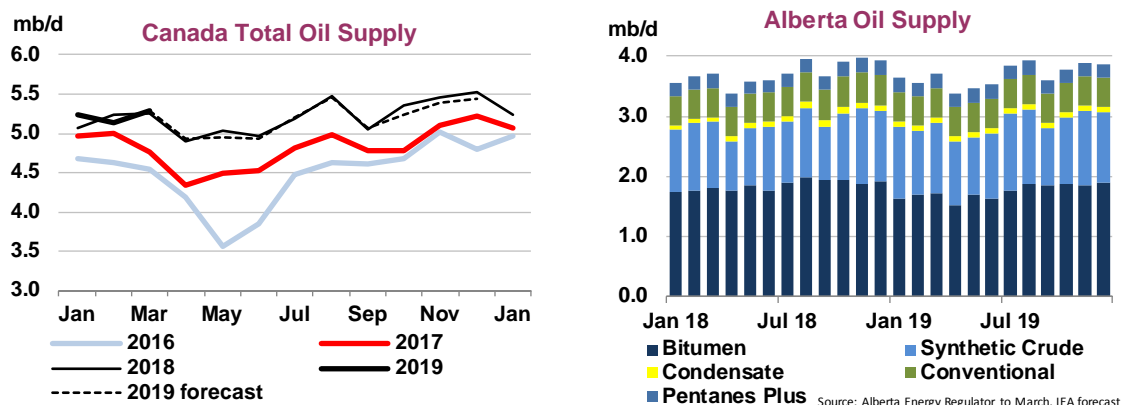
US crude and condensate production fell by 185 kb/d in February on a sharp drop in production in the Gulf of Mexico and as onshore output growth slowed. Offshore output plunged by 185 kb/d m-o-m, to 1.7 mb/d, as maintenance capped supplies at the Thunder Horse, Stones and Mamalard fields. Production in Texas rebounded after January's decline, adding 60 kb/d, to nearly 4.9 mb/d. New Mexico inched up by 26 kb/d. North Dakota saw production ease by 64 kb/d m-o-m while Oklahoma registered a

15 kb/d decline. At 11.7 mb/d, total production was nevertheless 1.4 mb/d higher than a year earlier, with Texas (+875 kb/d), New Mexico (+257 kb/d) and North Dakota (+161 kb/d) making up most of the gains.



The forecast for 2019 US total oil production has been revised up by 85 kb/d since last month's *Report*, on higher NGL supply. In February, US NGL production surged by 160 kb/d to a new record of 4.7 mb/d and some 680 kb/d higher than a year ago. Growth in total oil supply is now seen at 1.7 mb/d, compared with 2.2 mb/d last year. US crude oil output growth accounts for 1.2 mb/d and 1.6 mb/d, respectively.

Canadian oil production rose by a higher than expected 150 kb/d in March to an estimated 5.28 mb/d. The increase came primarily from Alberta, where an easing of production restraints allowed companies to boost output. Synthetic crude oil production rose by just over 100 kb/d m-o-m to 1.165 mb/d, while un-upgraded bitumen supplies inched 20 kb/d higher to 1.72 mb/d. Offshore production held steady at around 260 kb/d as a drop in output from the Terra Nova field offset increased production from Hebron of 96 kb/d. Production at White Rose, which was suspended in November after a spill, was 7 kb/d, compared with pre-shutdown levels of around 30 kb/d.

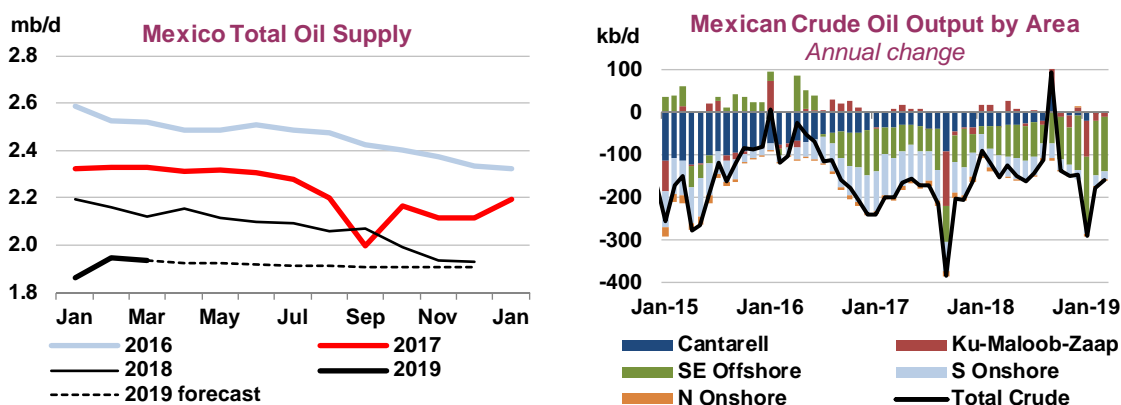


Alberta has gradually reduced the production curtailments enacted in January as inventories and price differentials normalised. Cuts were tapered by 75 kb/d for February and by a further 25 kb/d in April. Production limits will be increased by a further 25 kb/d in May and June, at which time the total production cap will be 3.71 mb/d.

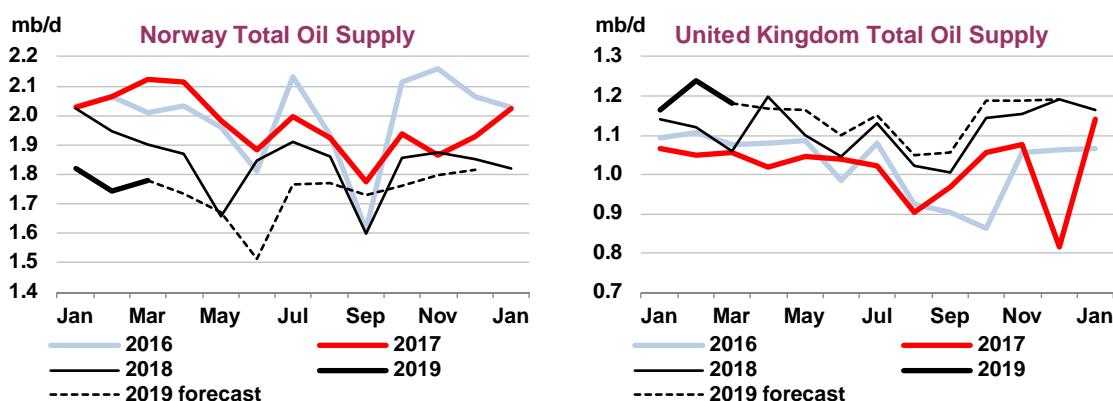
Despite the easing of restrictions, Canadian production is estimated to have fallen seasonally in April and May due to maintenance at oil sands facilities. Notably, Shell Canada commenced a 38-day maintenance turnaround at its Scotford upgrader in mid-April. A fire broke out in the North Upgrader during the shutdown, which could prolong the works. Cenovus started a 23-day turnaround at Christina Lake last month. Imperial Oil began a 36-day shutdown of its Cold Lake plant in April and plans to start a

four-week shutdown at its Kearn facility from the middle of May. Suncor meanwhile has announced maintenance at its Firebag and Fort Hills oil sands sites in 2Q19, reducing output by 30 kb/d and 15 kb/d on average for the quarter, respectively. Maintenance at the company's U1 upgrader will reduce quarterly output by 25 kb/d.

Mexico's crude oil production held largely steady in March, at around 1.7 mb/d. According to preliminary data, output was maintained at this level through April. Output had hit a near 40-year low in January of 1.64 mb/d, as flows at both the Cantarell and Ku-Maloob-Zaap complexes were constrained by outages. Crude oil exports in March fell back 325 kb/d m-o-m to 1.15 mb/d. Including NGLs, Mexican supply was 1.94 mb/d, down 180 kb/d y-o-y and 54 kb/d below October 2018 production. Mexico pledged an output cut of 40 kb/d but has so far exceeded this level due to steep declines and outages.



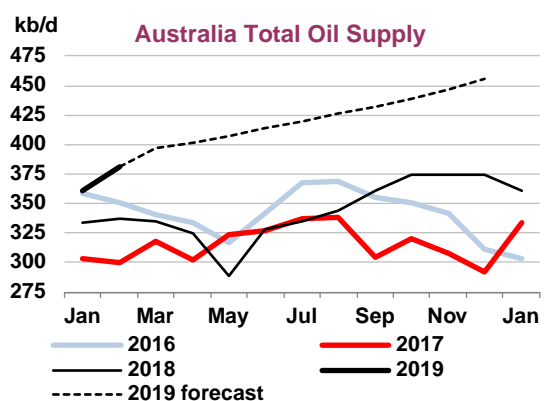
Government data show that **Norwegian** oil output ticked up by 35 kb/d m-o-m in March following the completion of maintenance. However, at 1.8 mb/d, it was 120 kb/d below year ago levels as declining field production is not being offset by new projects. This will continue until the Johan Sverdrup project comes online at the end of the year. Preliminary loading programmes show that only one Ekofisk cargo is scheduled for June when the field will be shut for heavy maintenance. Works at Equinor's Statfjord field and Aker BP's Valhall and Ula fields will also weigh on 2Q flows. Furthermore, lower-than-expected production coming from Wintershall's Maria field will see 2019 output at 1.7 mb/d, down 110 kb/d from 2018. The Maria field ramped up to 25 kb/d in mid-2018, but this was below the operator's expectations of around 40 kb/d. The disappointing results so far have led to Maria's recoverable reserves figure being downgraded to 60 mb, from 180 mb. In an effort to boost future production, in February, March and April the field was shut-in to allow Wintershall to gather data to inform its 2019 drilling programme. In more positive news, Equinor, Aker BP and Wintershall are all separately progressing with plans to drill wildcat exploration wells this year.



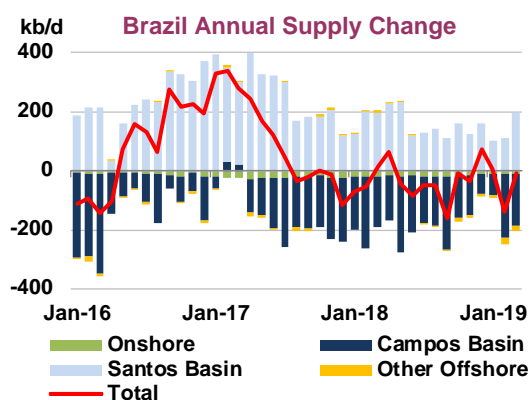
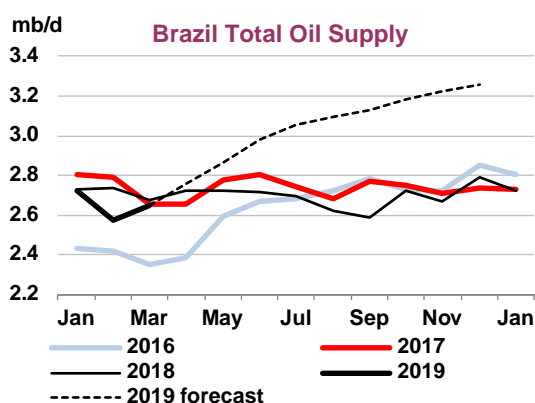
Field-level production data from the Oil and Gas Authority (OGA) confirmed that **UK** oil production increased by 120 kb/d y-o-y in February on higher output from the Clair Ridge, Garten and Burgman fields that started-up in 2018. Having faltered in January, production from West of Shetland's Schiehallion picked up by 23 kb/d m-o-m with further gains to come. JODI data for March peg UK output up 120 kb/d y-o-y but growth will slow from April onwards and is forecast to be 45 kb/d for the year as a whole. Equinor announced a further delay to its \$7.7 bn Mariner project with first oil now expected in 3Q19, rather than in 2Q19. The project was originally due to start up in 2017. Plateau production rates of 55 kb/d from Mariner are unlikely to be seen before 2020. On 18 April, ConocoPhillips announced that it will sell its UK North Sea assets to Chrysaor in a \$2.675 bn deal expected to close later this year. Chrysaor said the purchase would allow the company to achieve production of 185 kb/d by the end of the year, which would make it the UK's top producer.

The release of North Sea loadings programmes show that supply of Brent, Forties, Oseberg, Ekofisk and Troll will average 720 kb/d in June, down 230 kb/d m-o-m, as the Ekofisk field is closed for maintenance.

Australian oil output rose by 20 kb/d in February to 380 kb/d, its highest level since December 2015. Production was up 45 kb/d on a year ago, driven by a 60 kb/d y-o-y increase in condensate production, while both crude and NGLs production fell marginally compared with a year ago. Increased flows stem from the Prelude floating LNG project that started up in January and from the Ichthys LNG project that was commissioned last year. Ichthys will add 100 kb/d of condensate and around 50 kb/d of NGLs when it is fully operational.



Brazil's oil production rebounded by 75 kb/d in March, to 2.65 mb/d, supported by the start-up of new production units. On 19 March, Petrobras announced that another floating production, storage and offloading (FPSO) unit started up in Búzios, the fourth in an eleven-month period. Each of the four units have a production capacity of 150 kb/d, and in March output at the field had reached 118 kb/d. Output was also boosted by the start-up of another FPSO (P-67) at Lula North in early February. Lula flowed at a new record of 909 kb/d in March, up nearly 80 kb/d on a year ago.



Despite the latest increase, Brazilian output is struggling to break through year-earlier levels as steep declines at mature fields and outages so far offset gains from new units. In March, total output was largely unchanged year-on-year. Production in the Santos Basin was up 195 kb/d compared with a year earlier, but it was offset by declines in the more mature Campos and onshore basins. Declines have been particularly steep at the Marlim fields, which produced a combined 240 kb/d in March, down 125 kb/d y-o-y. Production at the Roncador field was down 53 kb/d y-o-y to 167 kb/d.

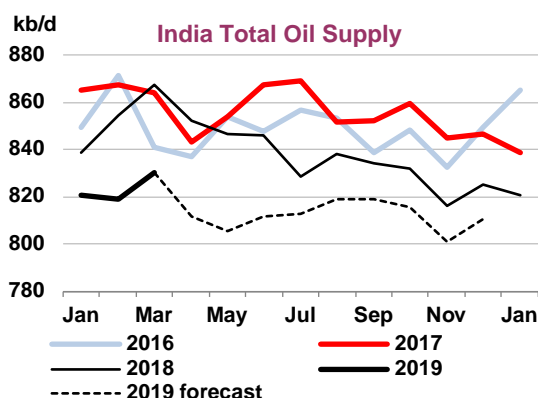
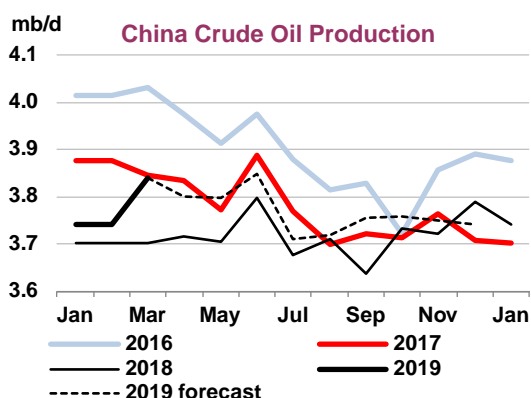
Production rose further in April and May, and in its latest investor update, Petrobras said it remains on track to reach its 2019 oil and natural gas production target of 2.8 million boe/d, despite the setbacks in 1Q19. According to Petrobras, maintenance shutdowns eased during April, allowing production to ramp up to 2.7 mboe/d towards the end of the month and reach 2.8 mboe/d by early May. This is a significant recovery from the 2.5 mboe/d level seen in 1Q19.

Petrobras also said that technical issues related to the commissioning of the gas systems of new FPSOs, have been resolved. The first FPSO installed at Búzios has already reached capacity and the remaining six units should reach capacity levels within 12 months. Petrobras also expects to install one more FPSO at a subsalt field later in 2019, when the FPSO P-68 will pump first oil from the Berbigao field.

Following a modest increase during 2018, **Argentina's** crude and condensate production seems to have stabilised in recent months. In March, output held at 502 kb/d, unchanged from a month earlier but 15 kb/d higher than a year ago. Tight oil production, which rose from 40 kb/d to 70 kb/d during the course of 2018, has held steady at around 70 kb/d since the start of the year. Including NGLs, Argentina's oil output is around 590 kb/d. **Colombian** crude oil output nudged lower to 885 kb/d in March, but was up 30 kb/d from a year ago. **Peruvian** production dropped by 10 kb/d in April, to 130 kb/d including gas liquids. **Trinidad and Tobago** produced 87 kb/d of oil in February.

In early May, ExxonMobil, Hess and CNOOC took a final investment decision on their Liza Phase 2 development in **Guyana**. The development, which will produce via the 220 kb/d Liza Unity FPSO, is expected to start up in mid-2022. The partners are on track for first oil at Liza Phase 1 in early 2020. That development is set to reach a maximum rate of 120 kb/d from the Liza Destiny FPSO. A final investment decision is expected for the third phase later this year, which could add another 180-220 kb/d by 2023. The consortium has said that output from Guyana could be as high as 750 kb/d by 2025.

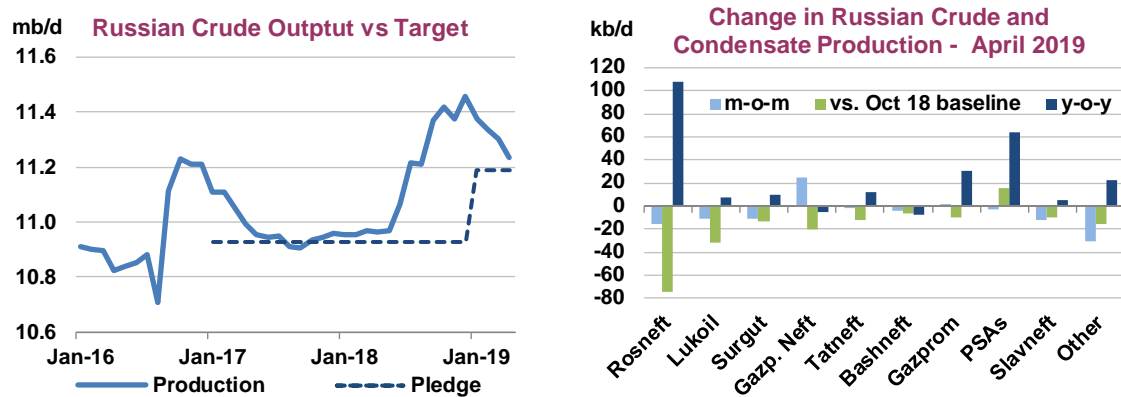
China's crude oil output surged by nearly 100 kb/d in March, to 3.84 mb/d, the highest level since June 2017 and 140 kb/d higher than a year ago. As discussed in last month's *Report*, Chinese oil companies significantly boosted upstream investment in response to higher prices and calls from President Xi to increase production to improve energy security. While it remains to be seen if the effort is enough to offset steep natural declines, for now we have revised China's oil supply expectations for the year up by roughly 100 kb/d. Crude oil output could post its first annual increase since 2015, rising roughly 50 kb/d to 3.8 mb/d. Including coal to liquids output, Chinese oil supply is expected to average 3.9 mb/d.



Indian output nudged up to 830 kb/d in March, from 820 kb/d in February, but was 35 kb/d lower than a year ago. After registering a 25 kb/d m-o-m decline a month earlier, **Malaysian** crude oil output nudged up 10 kb/d in March. At 640 kb/d, production was 20 kb/d lower than a year ago and level with October 2018, which serves as the base line from which OPEC+ production cuts are calculated. Malaysia had pledged to curb output by 40 kb/d. **Brunei** produced 117 kb/d of crude in February, up from 103 kb/d

last October despite a pledge to cut production by 3 kb/d. According to preliminary data, **Vietnam** produced 230 kb/d of crude oil in April, down 10 kb/d versus March and 15 kb/d below a year earlier. **Thailand's** crude and condensate production was 215 kb/d in February, 5 kb/d higher than in January and 30 kb/d lower than a year ago. Including NGL output, Thailand produced roughly 400 kb/d.

Russian oil companies stepped up efforts to rein in oil output in April, cutting supplies by a combined 70 kb/d m-o-m. Rosneft reduced production by 15 kb/d, Lukoil by 11 kb/d, Slavneft by 12 kb/d while small producers cut by a combined 30 kb/d from a month earlier. GazpromNeft was the only company to increase supplies last month, producing 25 kb/d more than in March. At 11.56 mb/d, total oil production was 185 kb/d below the October 2018 baseline but still 265 kb/d higher than a year ago. Russia had pledged to curb production by 230 kb/d, but has always maintained that the cuts would be gradual. In April compliance with the deal improved to a rate of 80%, up from 50% in March. Energy Minister Alexander Novak said the compliance rate reached 100% by the end of April and that Russia would maintain that level in May. In the meantime, industry operations have been impacted by contamination along the Druzhba pipeline. National oil pipeline monopoly Transneft reportedly asked oil firms to cut production by more than 1 mb/d for five days in early May as flows to Europe and exports from the Ust-Luga port were disrupted. In time, data will show how much production was shut-in.

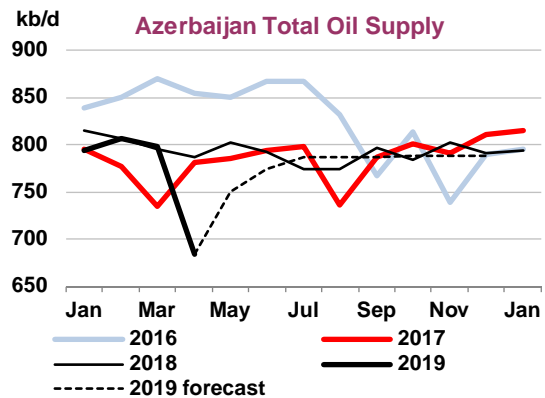
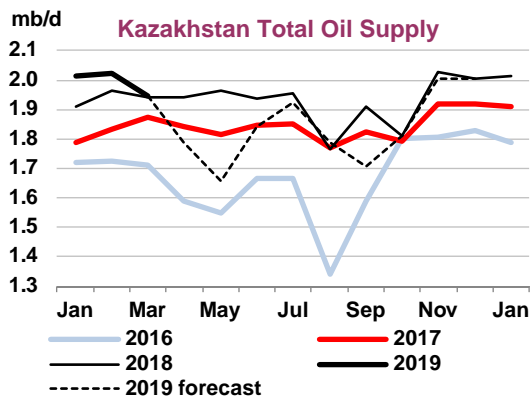


Russian officials, including President Vladimir Putin, have suggested that there is no need to extend the 1.2 mb/d OPEC+ supply pact past its expiration on 30 June, pointing to tightening market balances and the strong recovery in oil prices. Energy minister Alexander Novak said in April that Russia had not taken a final decision and that Moscow would consider “the interests of the country and what would deliver the biggest gains for Russia’s oil and gas potential”.

Forecasts released by Russia’s economic development ministry and its energy ministry do not incorporate an increase in production for the remainder of the year. The economic development ministry expects crude oil and gas condensate production to average 558 million metric tons this year (11.206 mb/d) implying output would have to fall below April levels for the remainder of the year. The energy ministry predicts slightly higher numbers, of up to 560 million, or 11.246 mb/d, which also implies lower production through to the end of the year. In 2018, Russian production stood at 555.9 million tons, or 11.16 mb/d.

Kazakhstan's crude oil and condensate production dropped by 80 kb/d in March, to just over 1.9 mb/d as Kashagan flows slowed ahead of maintenance. Output at Kashagan went offline for 45 days from mid-April and declined by 60 kb/d m-o-m to 266 kb/d. Output at the country’s other large fields, Tengiz and Karachaganak, held largely steady at 670 kb/d and 260 kb/d, respectively. Output is expected to have dropped more sharply in April and May, as maintenance at Kashagan intensified. Indeed, CPC loadings in April plunged 355 kb/d m-o-m, to 1 090 kb/d, the lowest level in nearly two years. Kashagan shipments fell by 135 kb/d to 146 kb/d. Tengiz flows dropped by 200 kb/d to 513 kb/d but from very high March

volumes of 715 kb/d. Data for early May suggest production declined to just over 1.6 mb/d as the full impact of the Kashagan shutdown was felt. Later this year, Tengiz is expected to undertake work lasting 42 days from August while Karachaganak has announced maintenance extending over 28 days from 15 September.



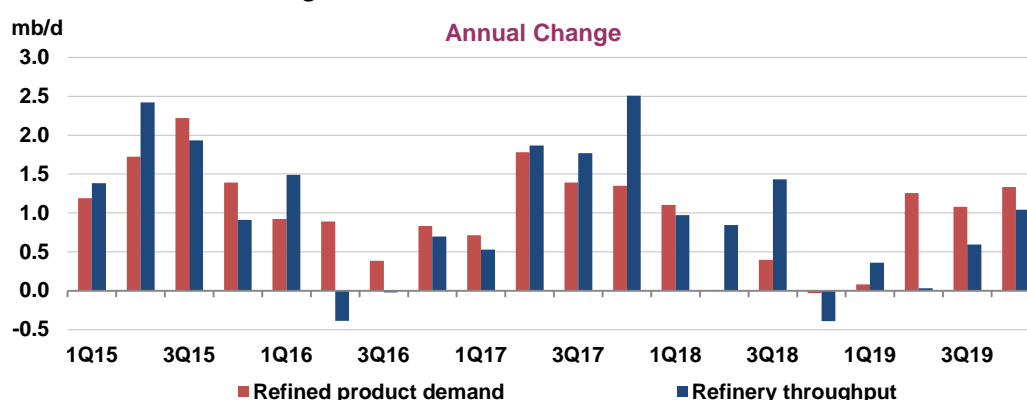
Azerbaijan's output, meanwhile, plunged to a 12-year low of 685 kb/d in April as BP started maintenance at the Azeri-Chirag-Guneshli (ACG) offshore oil complex. Production was down roughly 115 kb/d from a month earlier and the September 2018 baseline from which compliance with agreed output cuts is calculated. Crude production dropped to 605 kb/d while condensate production from Shah Deniz eased to 78 kb/d from 84 kb/d in March.

On 24 April, BP and its partners at ACG announced they had sanctioned the \$6 billion Azeri Central East (ACE) platform that will increase production by up to 100 kb/d by 2023. BP says the ACE project, which will involve the installation of a new platform and a water injection pipeline connecting it to the East Azeri platform, will kick off this year and run until mid-2022. Production, which has been in steady decline since reaching a peak of around 850 kb/d a decade ago, averaged 584 kb/d last year. ACG production was 571 kb/d in 1Q19, according to BP.

REFINING

Summary

In 2Q19, global refining is seeing its third consecutive quarter of lacklustre growth. After a 0.4 mb/d year-on-year (y-o-y) decline in 4Q18, runs were only 0.4 mb/d higher y-o-y in 1Q19, and are now just above the 2Q18 level. Extended maintenance in the US and Europe and unusually low activity in OECD Asia are mostly responsible. At the same time, however, 1Q19 margins, despite a gradual increase over the quarter, were also down y-o-y. This is due to a protracted period of slow growth in refined products demand that started in 2Q18. Using our top-down method of estimating demand, 2018 refined product demand growth was about 0.4 mb/d, the lowest since 2011, although even this figure was skewed by a strong 1Q18. The average growth over the past four quarters (2Q18-1Q19) was a gloomier 150 kb/d. It is probably more than a coincidence that oil prices in 2018 increased at the steepest rate since 2011, as this could have affected demand growth.



For the rest of this year refined product demand growth is expected at about 1 mb/d on average, mostly thanks to the low base year effect. Refining activity in 2Q19 is expected to be flat y-o-y, due to increased maintenance and lower runs in regions affected by the Druzhba pipeline contamination (see *Druzhba: friendship turned sour*). This could result in a large draw in refined products stocks – 1.3 mb/d. Global refining throughput is set to pick up sharply from April to August, increasing by 1 mb/d a month on average. Increasing activity will replenish refined product stocks. On the other hand, crude stocks are likely to draw by as much as 2.3 mb/d in 3Q19, assuming no change in OPEC output.

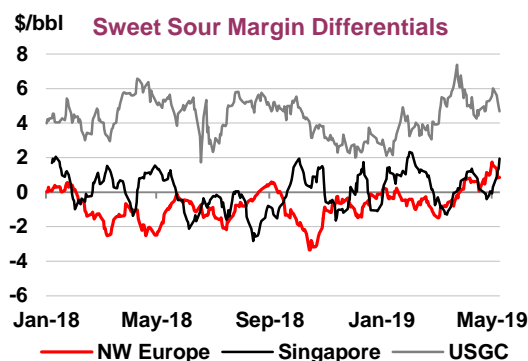
Global Refinery Crude Throughput¹
(million barrels per day)

	4Q18	2018	Feb 19	Mar 19	1Q19	Apr 19	May 19	2Q19	3Q19	4Q19	2019
Americas	19.4	19.4	18.4	18.3	18.6	18.8	19.6	19.5	19.9	19.5	19.4
Europe	12.0	12.0	12.0	12.0	12.1	11.9	11.5	11.9	12.5	12.0	12.1
Asia Oceania	7.0	7.0	7.2	7.0	7.1	6.9	6.5	6.7	7.1	6.9	6.9
Total OECD	38.3	38.4	37.7	37.3	37.8	37.6	37.7	38.1	39.5	38.4	38.5
FSU	7.1	7.0	7.1	6.8	7.0	6.6	6.7	6.8	7.0	6.9	6.9
Non-OECD Europe	0.6	0.6	0.6	0.4	0.5	0.6	0.6	0.6	0.6	0.6	0.6
China	12.3	12.1	12.6	12.4	12.6	12.5	12.3	12.4	12.6	12.6	12.5
Other Asia	10.6	10.6	11.0	10.6	10.8	10.2	10.7	10.6	10.9	11.0	10.8
Latin America	3.3	3.6	3.1	3.0	3.1	3.1	3.2	3.2	3.3	3.2	3.2
Middle East	8.1	7.9	8.0	7.8	7.9	8.0	8.1	8.1	8.2	8.6	8.2
Africa	2.1	2.0	2.0	2.2	2.1	2.1	1.9	2.0	2.1	2.1	2.1
Total Non-OECD	44.0	43.8	44.5	43.3	44.0	43.1	43.5	43.6	44.6	45.0	44.3
Total	82.3	82.2	82.1	80.6	81.8	80.7	81.2	81.7	84.1	83.3	82.7
<i>Year-on-year change</i>	<i>-0.4</i>	<i>0.7</i>	<i>1.0</i>	<i>-0.1</i>	<i>0.4</i>	<i>0.0</i>	<i>0.0</i>	<i>0.0</i>	<i>0.6</i>	<i>1.0</i>	<i>0.5</i>

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

Margins

After a period of synchronised movement, global refining margins diverged again in April as average crude prices increased by \$4-5/bbl m-o-m. This relatively sharp increase resulted in all observed hydroskimming margins turning negative on a monthly average basis for the first time this year. In Europe, only Brent cracking margins firmed, while simple margins fell due to weaker fuel oil cracks. Northwest Europe Urals prices benefitted from medium-grade tightness in global markets, flirting with positive differentials with North Sea Dated. In late April, the Druzhba pipeline problem offered further support. This pushed Northwest Europe Urals cracking margins below Brent in a rare occurrence. In Singapore, stronger gasoline cracks could not offset lower fuel oil and middle distillates cracks. The US hubs, again, defied the global trend and margins increased. Even sour margins were stronger m-o-m, supported by tight product markets due to unusually underwhelming refining activity in recent months. The US Midwest, with its own microclimate of cheaper crude and higher product prices, saw most refining margins crossing the symbolic \$20/bbl mark, quadrupling since the start of the year.



IEA/KBC Global Indicator Refining Margins¹

	(\$/bbl)									
	Monthly Average				Change	Average for week ending:				
	Jan 19	Feb 19	Mar 19	Apr 19	Apr 19-Mar 19	12 Apr	19 Apr	26 Apr	03 May	10 May
NW Europe										
Brent (Cracking)	2.80	3.12	4.27	4.76	↑ 0.48	4.78	5.34	4.72	5.65	4.95
Urals (Cracking)	3.03	3.84	4.95	4.08	↓ -0.87	4.13	4.87	3.94	4.24	3.98
Brent (Hydroskimming)	0.86	1.38	2.02	1.09	↓ -0.93	1.01	1.45	0.92	1.61	1.01
Urals (Hydroskimming)	0.17	1.32	2.15	-0.06	↓ -2.21	-0.06	0.48	-0.36	-0.51	-0.92
Mediterranean										
Es Sider (Cracking)	5.98	6.55	7.16	5.03	↓ -2.13	4.79	5.35	4.82	5.58	4.70
Urals (Cracking)	4.58	6.03	6.57	3.99	↓ -2.58	3.80	4.36	3.84	4.13	3.41
Es Sider (Hydroskimming)	3.37	4.24	4.35	1.76	↓ -2.59	1.46	1.87	1.55	2.10	1.28
Urals (Hydroskimming)	0.12	2.06	2.57	-0.35	↓ -2.92	-0.55	-0.24	-0.50	-0.66	-1.59
US Gulf Coast										
50/50 HLS/LLS (Cracking)	3.70	5.43	9.44	10.29	↑ 0.85	11.17	10.30	9.75	10.40	8.75
Mars (Cracking)	0.39	1.78	3.92	5.24	↑ 1.32	6.18	5.75	4.85	4.83	3.62
ASCI (Cracking)	0.41	1.90	3.86	5.09	↑ 1.23	6.01	5.53	4.67	4.69	3.39
50/50 HLS/LLS (Coking)	4.44	5.85	10.27	11.47	↑ 1.20	12.38	11.59	10.88	11.60	9.98
50/50 Maya/Mars (Coking)	1.08	1.61	5.27	7.60	↑ 2.34	8.27	8.75	7.58	7.75	6.59
ASCI (Coking)	2.86	3.35	6.39	8.16	↑ 1.77	9.06	9.11	7.63	8.01	6.99
US Midwest										
WTI (Cracking)	6.06	12.87	17.58	20.47	↑ 2.89	20.14	20.54	21.05	22.99	24.00
30/70 WCS/Bakken (Cracking)	5.72	12.71	16.54	19.72	↑ 3.18	18.73	19.98	21.32	22.95	23.73
Bakken (Cracking)	5.50	12.44	18.00	22.32	↑ 4.33	21.35	23.04	23.75	25.25	26.09
WTI (Coking)	6.39	13.43	18.64	22.03	↑ 3.39	21.67	22.20	22.64	24.70	25.89
30/70 WCS/Bakken (Coking)	6.14	13.56	18.21	21.87	↑ 3.66	20.73	22.43	23.52	25.43	26.52
Bakken (Coking)	5.42	12.43	18.27	22.85	↑ 4.58	21.86	23.62	24.29	25.86	26.81
Singapore										
Dubai (Hydroskimming)	0.50	0.62	0.76	-0.78	↓ -1.54	-0.38	-0.86	-1.83	-1.10	-1.21
Tapis (Hydroskimming)	-0.04	0.74	2.24	0.00	↓ -2.23	-0.03	0.68	-0.08	-0.60	-1.48
Dubai (Hydrocracking)	2.42	2.50	3.33	2.72	↓ -0.60	3.29	3.09	1.71	2.40	2.44
Tapis (Hydrocracking)	1.05	1.72	3.75	2.15	↓ -1.60	2.21	3.17	2.08	1.49	0.56

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 February throughput was finalised with an unusually large downward revision from preliminary data reported last month. Runs were 600 kb/d lower than expected, mostly due to Europe and Canada. March preliminary data came in 50 kb/d lower than our estimate, while in April, there was a 520 kb/d downward revision to our previous estimate largely due to the slower than expected recovery in US throughput.

Refinery Crude Throughput and Utilisation in OECD Countries

(million barrels per day)

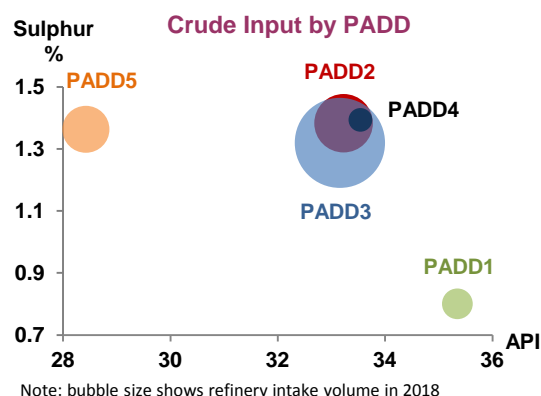
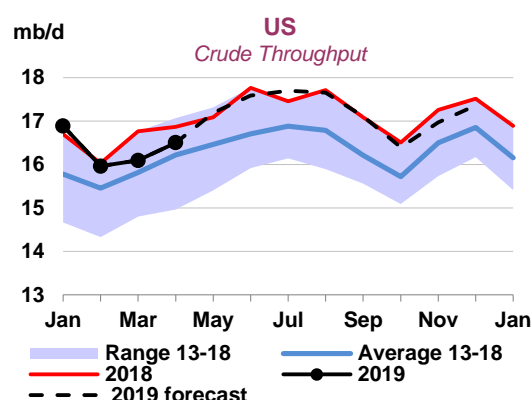
	Oct 18	Nov 18	Dec 18	Jan 19	Feb 19	Mar 19	Change from		Utilisation rate ¹	
							Feb 19	Mar 18	Mar 19	Mar 18
US ²	16.41	17.15	17.41	16.79	15.86	15.99	0.13	-0.67	84%	88%
Canada	1.64	1.70	1.72	1.69	1.72	1.60	-0.11	-0.13	80%	86%
Chile	0.19	0.19	0.20	0.21	0.20	0.19	-0.01	0.00	86%	87%
Mexico	0.48	0.51	0.50	0.49	0.59	0.54	-0.06	-0.10	33%	38%
OECD Americas³	18.72	19.55	19.82	19.17	18.37	18.33	-0.05	-0.91	80%	84%
France	1.22	1.09	1.13	1.15	1.17	1.04	-0.13	0.01	84%	83%
Germany	1.53	1.69	1.75	1.82	1.73	1.87	0.14	0.08	93%	88%
Italy	1.29	1.38	1.38	1.28	1.20	1.24	0.04	-0.11	72%	78%
Netherlands	0.98	1.02	1.17	1.19	1.12	1.13	0.01	0.07	87%	82%
Spain	1.42	1.38	1.35	1.39	1.29	1.37	0.07	0.04	97%	94%
United Kingdom	1.15	1.11	1.15	1.13	1.09	1.02	-0.07	0.09	81%	73%
Other OECD Europe	4.10	4.16	4.43	4.30	4.44	4.36	-0.07	0.42	94%	88%
OECD Europe	11.68	11.82	12.36	12.26	12.03	12.02	-0.01	0.61	88%	85%
Japan	2.60	3.18	3.21	3.24	3.19	3.15	-0.04	-0.12	89%	92%
South Korea	3.12	3.08	3.05	3.04	3.20	2.97	-0.23	0.23	89%	85%
Other Asia Oceania	0.91	0.91	0.91	0.85	0.86	0.83	-0.03	-0.02	96%	98%
OECD Asia Oceania	6.62	7.17	7.17	7.13	7.25	6.96	-0.29	0.09	90%	90%
OECD Total	37.02	38.54	39.35	38.56	37.65	37.31	-0.35	-0.21	84%	85%

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

² US50

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

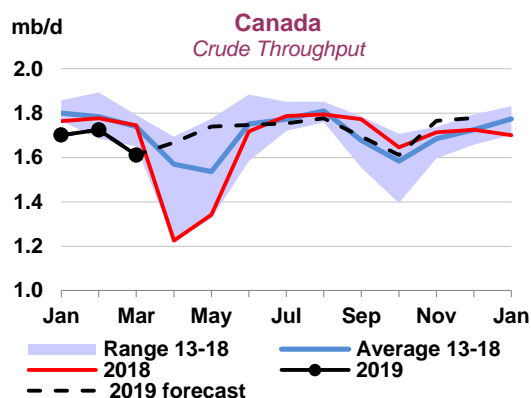
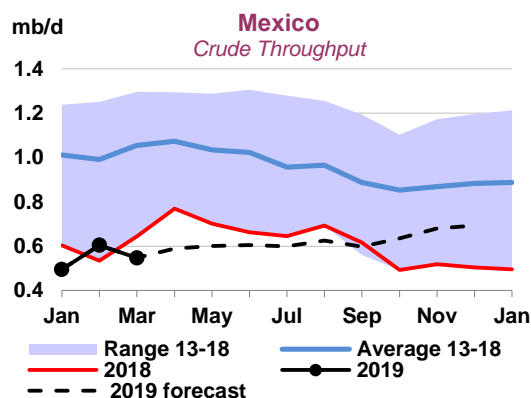
In April, **US** throughput increased 410 kb/d m-o-m, but was 370 kb/d lower y-o-y. Year-to-date, runs are down 230 kb/d compared to the same period a year ago on extensive maintenance programme. For 2019 as a whole, throughput is expected to fall by 110 kb/d y-o-y, with the expectation of further re-configuration works in 4Q19 in preparation for International Maritime Organisation's new sulphur regulations in ship emissions.



In February, the average API gravity of the US crude intake registered the highest monthly level on record, according to *Energy Information Administration* data, as refiners processed higher volumes of light tight oil. Sulphur content is at the lowest level since the 1990s. Even so, at 33 degrees API and 1.25% sulphur, the average US refinery crude slate remains medium sour. Intake is lighter and sweeter in those regions of PADDs 2 and 3 that process almost entirely domestic grades thanks to proximity to producing areas. This is why PADD 2, in the US Midwest, while processing most of the output of Canadian heavy grades, does not claim the heaviest and highest sulphur barrel. This title goes to PADD 5, the West Coast region, traditionally reliant on heavy sour grades from the Middle East and Latin America, along with California's heavy oil output. Processing heavy and sour grades results in higher CO₂ and air pollutant emissions. This partly explains the traditionally stronger focus on air quality and emissions by the government of California, the most densely populated among the largest US states. On the other hand, PADD 1, which has the largest import reliance, and is also home to dense urban conglomerations, uses the lightest and sweetest crudes for refinery intake. Moreover, most of the product consumed in this region is imported from PADD 3 and overseas.

The lightening of the US crude intake barrel has prompted refiners to reconsider coker additions, which were initially planned to accommodate growing Canadian output and the IMO 2020 bunker fuel specification change. In reality, growing domestic light crude production is priced attractively versus imports of heavier barrels. Coker throughput in PADD 3 has remained stagnant since 2015 while refinery throughput has increased by 500 kb/d. Marathon, the largest US independent refiner, announced postponement of a coker addition at its largest site, the latest refiner to do so.

In **Mexico**, February throughput was finalised higher, resulting in the first y-o-y gain since September, but March preliminary data show a decline. All three bids submitted to the Mexican government for the Dos Bocas refinery project were rejected in early May on cost issues. Pemex is now tasked to lead the construction effort along with SENER, the energy secretariat. **Canadian** runs were revised down in January-February. With March preliminary data also lower than our expectations, 1Q18 throughput in Canada was at the lowest seasonal level since 2004.



Finalised February data for OECD Europe saw an unusually large 440 kb/d downward revision, mostly due to **Germany**. With this, February throughput fell m-o-m, although it was still higher y-o-y. For March, preliminary data show throughput essentially flat m-o-m. According to Dutch FNV union, the April strike at Pernis, Netherlands, Europe's largest refinery, reduced throughput to 65%, but this was not confirmed by the operator Shell. Our forecast for May-June runs in OECD Europe incorporates a 200 kb/d impact from lower deliveries via the Druzhba pipeline.

Druzhba: friendship turned sour

Oil pipeline disruptions are usually associated with spills or politically-motivated shutdowns, but the Druzhba pipeline's case of contamination shows just how diverse are the causes. It is the world's largest functional cross-border pipeline system in terms of length and capacity. In the early 1960s, the Soviet Union built the pipeline with the name signifying "Friendship" in Russian, to supply crude oil to Warsaw Pact countries. The pipeline starts near Samara in the Volga-Urals region and in its current configuration has 1.4 mb/d capacity. In Belarus, it forks into a northern branch, extending to Poland and Germany, and a southern branch, going via Ukraine to Hungary, Slovakia and Czech Republic.

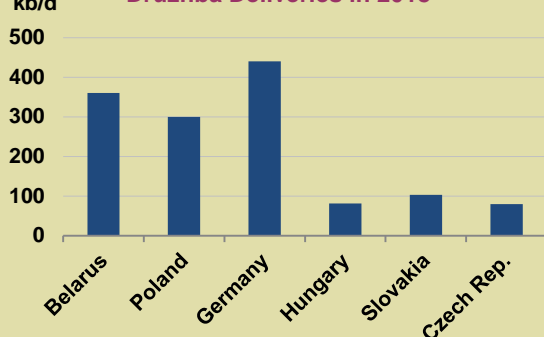
Samara is a hub of incoming pipelines from West Siberia, Kazakhstan and local crude gathering lines, and outgoing pipelines to the Black and Baltic seas. Local heavy and high-sulphur crude production from fields in Tatarstan has traditionally been a headache for Transneft, the operator of Druzhba and other Russian export pipelines, as it lowers the quality of lighter grades shipped in from Siberian oilfields, much to the discontent of larger Russian oil companies who have for years unsuccessfully lobbied for a quality bank system. Local heavy and high viscosity oil could have been the cause of the current contamination case.

On 19 April, the operator of the Belarus section announced excessive levels of organic chlorides in transit crude. Within a week, crude transit and deliveries to all refineries linked to the pipeline were suspended. Contaminated crude was also found in crude loading at the Russian Baltic port of Ust-Luga, where a feeder pipeline was built from the Russian section of Druzhba to partially bypass Belarus. The chemical compound implicated in the Druzhba contamination case is ethylene dichloride, used in the manufacturing of PVC resin. It is also used as solvent, which is why it could have found its way into heavy crude production facilities. Ethylene dichloride can be stored in vessels made of conventional materials, so the pipeline integrity is likely not compromised. However, at the typical temperatures of refining processes ethylene chloride turns into hydrochloric acid, which is highly corrosive when wet, damaging equipment and poisoning expensive catalysts. The Mozyr refinery in Belarus reported heat exchanger corrosion after unknowingly processing the contaminated crude for several days. This refinery is first in line for Druzhba deliveries.

The ongoing investigation has identified the section of the pipeline near its origin where the contaminated crude was injected, and arrests have been made at local oil logistics companies. Druzhba lines carry a quarter of Russian exports, while the leg to Ust-Luga accounts for another 14%. Both financial and reputational damages to Transneft and Russian oil in general could be substantial.

Outside Russia, the main question is: when will the system return to full operations? The Russian energy ministry reported the first delivery of on-specification crude at the Belarus border on 2 May. As of 13 May, the Mozyr refinery reported receiving normal quality crude oil via Druzhba and said it was planning to ramp-up throughput to "optimal" levels soon. MOL's refinery in Hungary also reported the restart of crude deliveries, but was planning on further tests before restoring normal operations. As of 14 May, refineries further downstream from Belarus – in Poland, Germany, Slovakia and Czech Republic – had yet to report deliveries of on-specification crude, given that several days of transit are required between the nodes.

Druzhba Deliveries in 2018



Druzhba Crude Share in Refining



Dealing with contaminated crude may be more complicated than a simple disruption of the flow. In Poland, for example, the two refineries and the port of Gdansk are connected to Druzhba, and the national crude transit system also allows reverse flows from ports to partially compensate for possible disruption of the pipeline. In the current case, however, the problem is that the pipeline is filled with contaminated crude.

Druzhba: friendship turned sour (continued)

Ways of disposing of this feedstock are very limited, due to the quantity involved: some estimates have put the total volume of contaminated crude in all sections of the Druzhba pipeline at 35 mb. There is generally a lack of available storage facilities. The Druzhba system, however, is designed with parallel lines. One pipeline can be used for temporary storage of the contaminated crude oil, which can then be pumped in the reverse direction to Russia for further disposal, while the other pipeline can be used to start supplying non-contaminated crude oil to the refineries. Railway shipments of the contaminated crude to Russian ports are also being discussed, although available capacity is limited. It can also be gradually diluted with on-specification crude arriving at refineries to be processed. Germany, Slovakia and the Czech Republic, at the final sections of northern and southern branches, did not report contamination issues, as transit was ceased before it could reach them.

Logistical constraints are the main argument behind the Belarus section operator's forecast that several months are required to restore full volumes. On 13 May Belneftekhim, Belarus's state-owned oil group announced that southern leg transit is restored at 60% of average levels, which implies a shortfall of about 100 kb/d. Total crude oil stocks in Hungary, the Czech Republic and Slovakia were 27 mb at end-February, equivalent to about nine months cover of the implied shortfall. The Czech Republic has released about 1.5 mb of crude from its emergency stocks, equivalent to 10 days of average refining throughput in the country, to complement volumes drawn by refineries from their operational stocks. Hungary announced on 30 April that it would make 3 mb of crude stocks available, more than half of government crude reserves, which could cover three months of pro-rated shortfall for Hungary. Not all of this has been taken up, however, as the country's sole refinery sourced alternative supplies via the Adriatic pipeline and elsewhere. No stock release has been reported for Slovakia, where planned maintenance had already lowered refining throughput. We assume a total of 100 kb/d impact on refinery throughput in these three countries over May-June, but expect operations to ramp up from July, even if this implies further crude stock draws.

Estimating the full impact for Poland and Germany is complicated. Poland received about 300 kb/d through Druzhba to its Gdansk and Plock refineries in 2018, while Germany's Leuna and Schwedt received 440 kb/d. All four refineries in theory have access to ports in the Baltic Sea in their respective countries. Around a third of usual deliveries via the Polish section could remain affected for several weeks, but alternative sources, such as seaborne imports and storage withdrawals, could cover part of the shortage. The Polish stock holding agency released 5.9 mb of crude stocks on 2 May, equivalent to more than 10 days of full throughput. We estimate a relatively small, 60 kb/d impact on runs over May-June, and a return to normal rates in July.

Germany has not released emergency stocks as of 14 May, implying that refineries are able to source crude for possibly lower rates of operations. Leuna was reportedly running at 30% below its usual rate. Refineries are also taking deliveries of seaborne crude. We expect a total impact of about 100 kb/d over May-June.

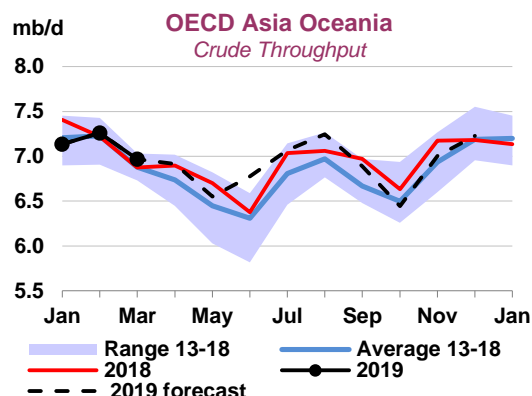
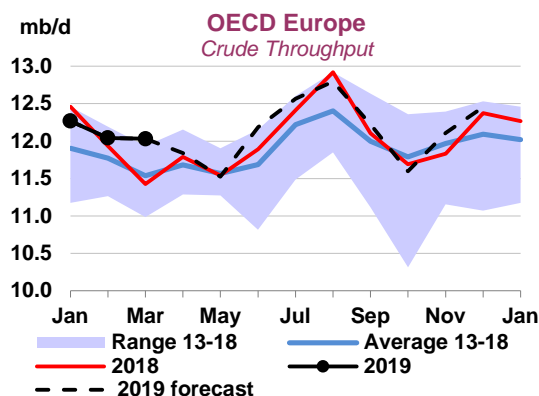
For Belarus refineries, we estimate a production shortfall of about 80 kb/d on average between April and July, without knowing the full extent of oil stocks in the country.

Overall, the impact on 2Q19 European refinery throughput from Druzhba issues is estimated at about 250 kb/d, under 2% of the continent's product demand. The less visible, but no less significant impact, however, is on crude costs and operational expenses, related to delivering alternative cargoes to the refineries. Refineries feeding from Druzhba were accustomed to discounted prices compared to seaborne cargoes. On 17 April, for example, *Argus* reported Poland and Germany delivery prices at about \$64/bbl for Druzhba, compared to \$71/bbl for seaborne Urals in Rotterdam.

In the current market conditions, when medium-sour grades are experiencing tightness in supply due to shortfalls from Iran and Venezuela, as well as OPEC+ production cuts, with refineries worldwide chasing alternatives, Urals contamination came as an unexpected blow to its inland European customers. Sourcing Urals alternatives from international markets is becoming more expensive: several Middle East producers have hiked their June Official Selling Prices to the highest levels for five years.

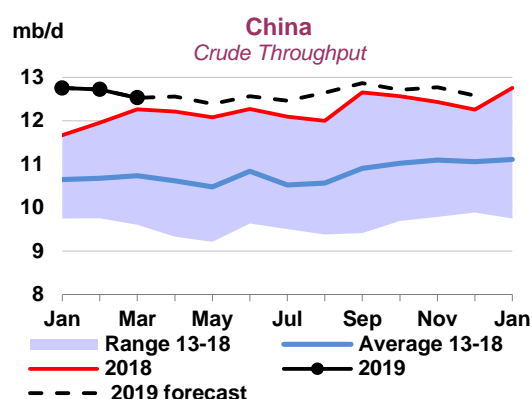
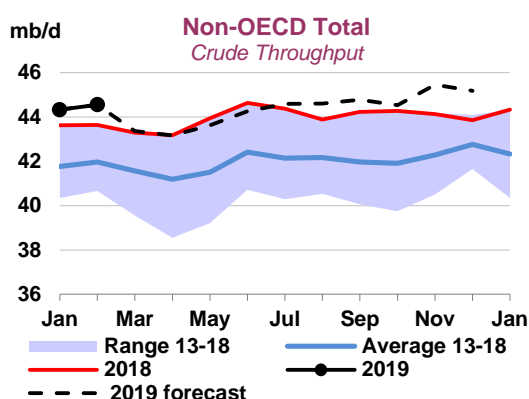
For almost two decades Transneft's attention has been focused on bypassing Druzhba, through the Baltic Pipeline System and the construction and expansion of the East Siberia-Pacific Ocean pipeline. For some time now, it seems, the pipeline monopoly will have to shift the focus back on Druzhba to deal with the consequences of the contamination.

OECD Asia throughput in March declined seasonally by about 300 kb/d m-o-m, driven by **Korean** maintenance. Refiners in Korea and **Japan** are looking for alternatives to both heavy and light Iranian grades after the expiry of US sanctions waivers (see *Supply*). The Korean government reinstated its programme of contributing towards the freight costs of non-Middle East crude barrels to promote diversification of supply sources.



Non-OECD refinery throughput

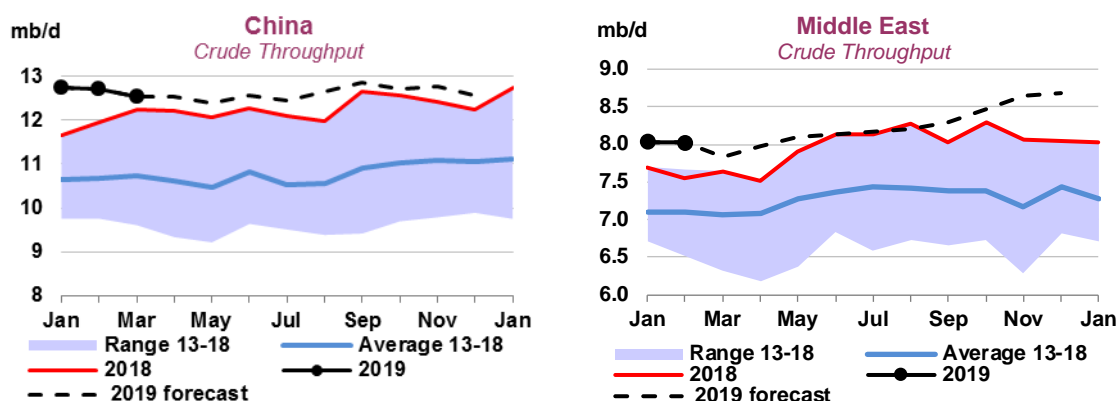
New data from JODI did not result in significant revisions to our February estimates for non-OECD refinery throughput. For March, our estimate was revised up by 330 kb/d on higher than expected Indian runs. In 4Q19, throughput is expected to cross the 45 mb/d mark on new capacity coming online.



In **China**, refinery throughput in March declined 190 kb/d m-o-m with the onset of a heavy maintenance programme. Judging by Liaoning province intake statistics, Hengli Group's 400 kb/d refinery was not running at full capacity in March. The province's runs were up by just 150 kb/d compared to the average before the start-up of the refinery. Arising from conversations during the IEA's recent visit to Zhejiang province, we conclude that the start up of the other 400 kb/d petrochemical refinery, operated by Rongsheng Group, is likely to be delayed to 2020. Nevertheless, given the extent of spare capacity in China, we are not revising down our forecast for the rest of the year. Recently, the government awarded a second batch of product export quotas for this year, taking the full amount to just over 1 mb/d, same level as total exports in 2018.

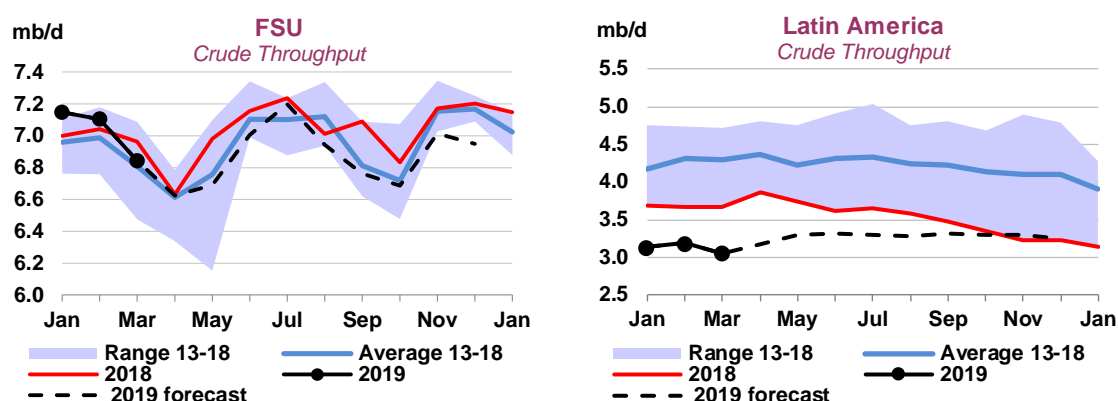
India's throughput surged unexpectedly in March to a near-record 5.3 mb/d. Both private-and public sector refineries registered strong y-o-y gains. We have revised up our 3Q19 forecast on expectations for a lower than normal monsoon season, which will encourage oil product consumption.

Elsewhere in Asia, Chinese Hengyi Group's 150 kb/d petrochemical refinery in **Brunei** has already started importing crude oil. The refinery is likely to start trial runs at end-June, but we do not expect full ramp-up before the end of the year. **Malaysia's** 300 kb/d RAPID complex, where Saudi Aramco is a partner, recently suffered a fire in a residue treatment unit under construction. However, we have not changed our expectations of a 4Q19 start-up. The start of these two refineries is a watershed moment, when the last two of Asia's net crude exporting countries will formally turn into net crude oil importers (excluding small volumes of net crude exports from Mongolia and Papua New Guinea).



February throughput in the Middle East was 90 kb/d higher than expected, but **Iraqi** runs fell m-o-m despite the government's stated objective of ramping up refining activity. We revised down our **Syrian** crude throughput estimates on reports of increased difficulties in sourcing supplies due to Iranian sanctions.

February and March throughput data for FSU were revised down on lower **Lithuanian** and **Russian** actuals, by 60 kb/d and 70 kb/d, respectively. April preliminary data for Russia were in line with our expectations at just under 5.4 mb/d. The **Belarus** forecast is revised down by 80 kb/d for May-June due to shortfall in crude deliveries via the Druzhba pipeline.



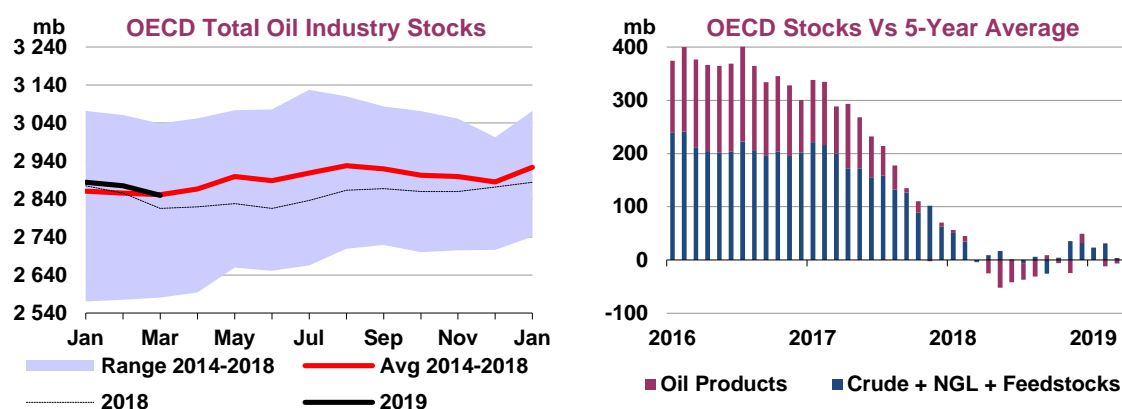
For 1Q19, our refinery throughput estimate in Latin America is revised down by 40 kb/d on lower than expected **Brazilian** runs in March and the quarterly update of **Colombian** refining data. Petrobras has announced plans to sell half of its domestic refining capacity, including the full divestment of eight refineries. The company's downstream strategy has come a long way from 6 mb/d portfolio ambitions announced at the start of this decade. When completed, the programme will leave Petrobras with just 1 mb/d of refining capacity, allowing it to focus on delivering upstream targets. Our estimate for **Venezuelan** runs remains at a miniscule 100 kb/d, recently confirmed by media reports that referred to the complete shutdown of the Cardon, El Palito and Puerto La Cruz refineries. Only a small train is reportedly operational at the 650 kb/d Amuay site.

STOCKS

Summary

OECD commercial stocks fell 25.8 mb month on month (m-o-m) in March to 2 849 mb, the second straight monthly decrease. The fall was larger than the typical five-year average reduction of 4 mb. Total stocks were 2.2 mb below the five-year average at end-month. Stocks in days of forward demand declined to 59.8 days, the lowest since July 2018.

Crude stocks fell counter-seasonally by 6.3 mb to 1 105 mb, with draws recorded in the OECD Americas and the OECD Asia Oceania. The OECD Europe showed lower-than-usual builds, possibly as a result of supply cuts by the OPEC+ agreement. NGL and feedstock holdings built 0.8 mb to 333 mb and remained close to an historical high. Oil product inventories fell by 20.3 mb to 1 411 mb in line with the five-year average decline of 25.6 mb. Middle distillates fell only by 1.8 mb compared with the five-year average of 10.8 mb, due to relatively high temperatures in the northern hemisphere and slower global trade activity in early 2019. Motor gasoline stocks fell by 20.3 mb to 389 mb. Fuel oil and other products gained 1.1 mb and 0.7 mb, respectively.



Preliminary data for April are mixed: some stock builds were observed in the US and Japan, while inventories fell in Europe. US stockpiles rose by 24.7 mb due to higher crude imports and oil products inventory builds. Japanese preliminary data showed a 4.1 mb increase in total stocks, attributable to crude oil and feedstocks. European stocks, by contrast, decreased by 5.8 mb owing to steep draws in motor gasoline (-3.6 mb) and middle distillates (-2.9 mb).

During 1Q19, OECD industry stocks decreased by 22.5 mb (250 kb/d). OECD Americas contributed most to this decrease with a fall of 45.8 mb, mainly due to high crude exports at 2.7 mb/d on average and lower crude imports of around 7 mb/d. Outside the OECD countries, crude stocks were largely unchanged according to the figures available from *JODI* (up until February) for 11 non-OECD countries excluding China. The implied crude stocks build in China was about 70 mb, which has a significant impact on total global oil balances. Seaborne oil in transit in 1Q19 fell significantly by 50.4 mb versus 4Q18, compared with an increase of 67.9 mb in 4Q18 vs 3Q18. The main reason is the implementation of the OPEC+ agreement and lower exports from Iran and Venezuela.

1Q19 v 4Q18 Stock Estimate

	mb	mb/d
OECD Americas	-45.8	-0.5
OECD Europe	42.6	0.5
OECD Asia Oceania	-19.3	-0.2
Total OECD Commercial Stocks	-22.5	-0.3
OECD Government Stocks	5.2	0.1
Oil in Transit incl. Floating Storage (Refinitiv)	-50.4	-0.6
Non-OECD Crude (JODI - February)	0.1	0.0
Non-OECD Products (JODI - February)	7.6	0.1
Fujairah (FEDCom/S&P Global Platts)	6.1	0.1
Singapore (International Enterprise)	0.5	0.0
Total excl. China Balance	-53.4	-0.6
China Crude Balance	69.2	0.8
Total	15.8	0.2

Preliminary Industry Stock Change in March 2019 and First Quarter 2019

	March 2019 (preliminary)				First Quarter 2019			
	(million barrels)				(million barrels per day)			
	Am	Europe	As. Ocean	Total	Am	Europe	As. Ocean	Total
Crude Oil	-0.4	0.7	-6.6	-6.3	-0.01	0.02	-0.21	-0.20
Gasoline	-17.2	-2.5	-0.5	-20.3	-0.55	-0.08	-0.02	-0.65
Middle Distillates	-8.9	3.5	3.6	-1.8	-0.29	0.11	0.12	-0.06
Residual Fuel Oil	1.4	0.9	-1.2	1.1	0.04	0.03	-0.04	0.03
Other Products	9.1	-1.7	-6.7	0.7	0.29	-0.06	-0.22	0.02
Total Products	-15.6	0.1	-4.8	-20.3	-0.50	0.00	-0.15	-0.65
Other Oils ¹	2.2	1.1	-2.6	0.8	0.07	0.04	-0.08	0.02
Total Oil	-13.8	2.0	-14.0	-25.8	-0.44	0.06	-0.45	-0.83

¹ Other oils includes NGLs, feedstocks and other hydrocarbons.

For January, stocks were revised down in all OECD regions. For February, total OECD data were revised up by 3.8 mb. Upward revisions were seen in Europe and Asia Oceania, whereas in the Americas the number was reduced.

Revisions versus April 2019 Oil Market Report

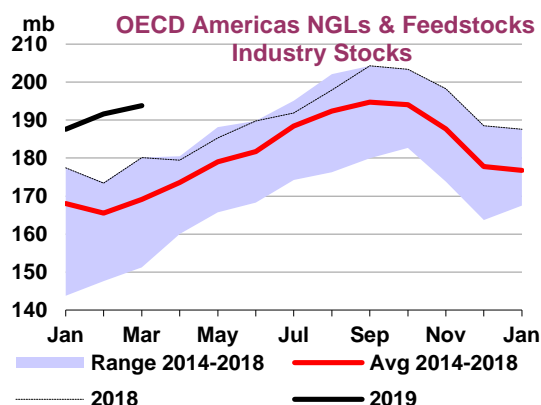
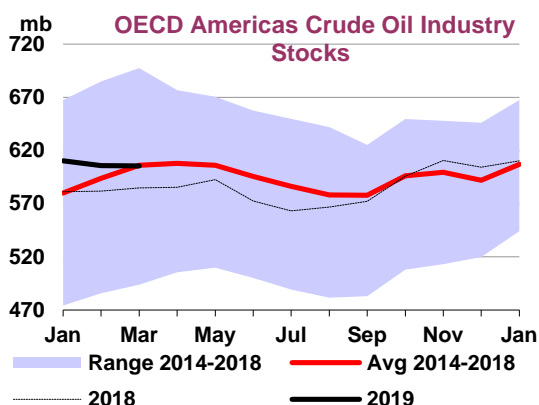
	(million barrels)							
	Americas		Europe		Asia Oceania		OECD	
	Jan-19	Feb-19	Jan-19	Feb-19	Jan-19	Feb-19	Jan-19	Feb-19
Crude Oil	-3.3	-3.7	-2.0	4.4	0.0	7.6	-5.3	8.3
Gasoline	0.8	-5.9	-0.3	-1.5	0.0	-1.0	0.5	-8.3
Middle Distillates	-2.1	-5.6	-0.6	2.7	-0.2	0.1	-2.9	-2.8
Residual Fuel Oil	0.9	0.0	-0.1	-1.2	0.0	0.0	0.8	-1.2
Other Products	-3.0	1.7	-0.7	1.5	-0.5	0.3	-4.1	3.5
Total Products	-3.4	-9.8	-1.7	1.5	-0.7	-0.5	-5.8	-8.8
Other Oils ¹	2.4	4.8	0.2	-0.5	-0.3	0.1	2.3	4.3
Total Oil	-4.3	-8.8	-3.5	5.5	-0.9	7.1	-8.8	3.8

¹ Other oils includes NGLs, feedstocks and other hydrocarbons.

Recent OECD industry stock changes

OECD Americas

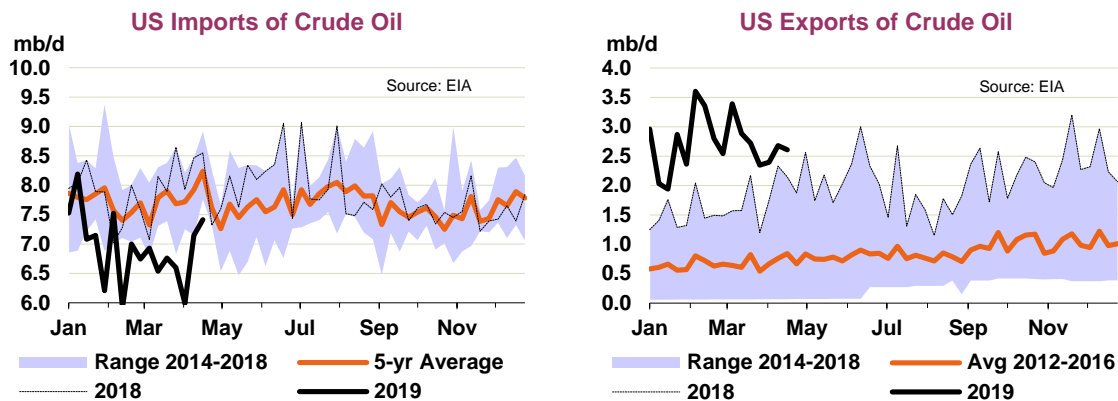
Commercial stocks in the OECD Americas fell counter-seasonally in March by 13.8 mb m-o-m to 1 496 mb. Stocks stood 14.3 mb higher than the five-year average but two days below it by the forward demand metric. This draw can be attributed to higher crude exports from the US.



Crude stockpiles saw a small fall of 0.4 mb in contrast to the usual seasonal build of 12.5 mb owing to higher crude exports from the US, which reached nearly 2.9 mb/d in March. Products inventories decreased more than usual by 15.6 mb m-o-m to 697 mb. Most of the draws were observed in motor gasoline (-17.2 mb to 260 mb, which is the lowest monthly level since November 2018), and middle

distillates (-8.9 mb to 197 mb). These draws are mainly explained by lower refinery throughputs in the US. Inventory gains for NGLs and feedstocks (+2.2 mb to 194 mb) and fuel oil (+1.4 mb to 35 mb) are in line with the seasonal movement; however, the outright stock level was well above the range for the 1Q period due to the large increase in natural gas output seen in the US in recent years.

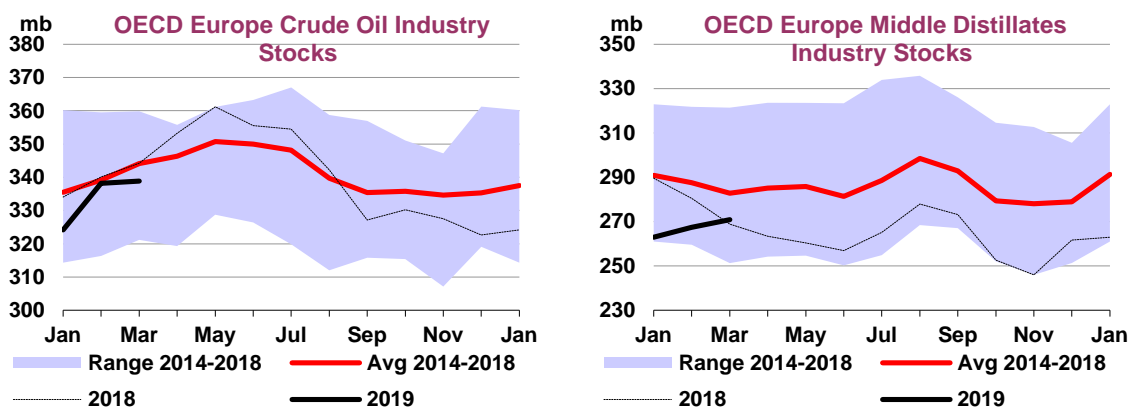
Preliminary April data from the *Energy Information Administration* show US crude stocks building (+15 mb to 471 mb) due to higher imports, which reached around 7.4 mb/d in the week ended 26 April and 6.8 mb/d on average in April. Oil products also increased by a combined 6.8 mb m-o-m with builds seen in other products (+12.9 mb), and draws observed in motor gasoline and middle distillates, -3.5 mb and -3.1 mb respectively.



OECD Europe

Industry stocks in OECD Europe increased by 2 mb m-o-m to 973 mb at the end of March, in contrast to the typical 5 mb draw seen over the last few years. There were counter-seasonal gains in middle distillates and fuel oil (3.5 mb and 0.9 mb respectively) together with an increase in crude oil stocks (+0.7 mb compared with the five-year average gain of 5 mb). Motor gasoline stocks fell by 2.5 mb.

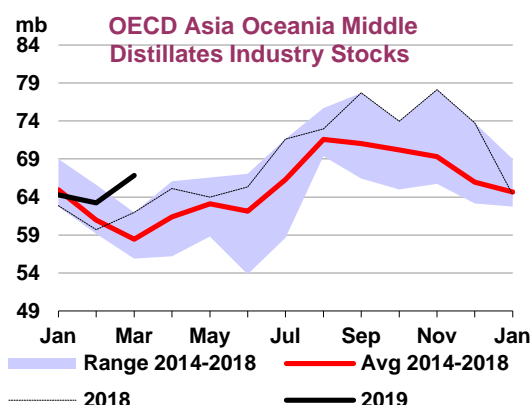
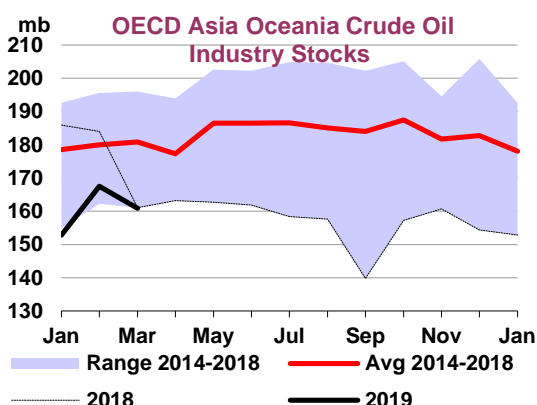
Middle distillate stocks increased by 3.5 mb to 271 mb in March, but its stock levels have been continuously below the five-year average in the past year. In terms of days of forward demand cover, it was 33.9 days versus the average of 37.4 days.



Preliminary data for April from *Euroilstock* showed inventories falling by 6.4 mb owing to steep draws in motor gasoline (-3.6 mb) and middle distillates (-2.9 mb). Crude oil (+0.5 mb) and fuel oil (+0.6 mb) showed small m-o-m increases.

OECD Asia Oceania

Commercial holdings in OECD Asia Oceania declined sharply in March, by 14 mb m-o-m to 380 mb, their lowest level since March 2018. By far the largest decrease was seen in crude stocks, which declined by 6.6 mb to 161 mb as February builds in Korea were reversed (-9.7 mb). Crude inventories in Japan gained 2.8 mb and partly offset the decline in Korea. Other product inventories and the fuel oil category also fell by 6.7 mb and 1.2 mb, respectively, due to lower refinery runs in Japan. Middle distillate stocks gained counter-seasonally by 3.6 mb thanks to higher temperatures in Japan and Korea. Both countries use kerosene for space heating. Gasoline stocks decreased by 0.5 mb in line with the historical average.



Preliminary data for April from the *Petroleum Association of Japan* (PAJ) showed a 4.1 mb increase in total stocks at the end of April. Crude oil and feedstock inventories rose by 1.1 mb and 2.8 mb, respectively. Oil product holdings increased by 0.2 mb but this was lower than the seasonal average of 2.2 mb with draws recorded in gasoline (-0.1 mb) and middle distillates (-0.9 mb) stocks. Fuel oil (0.2 mb) and other products (1 mb) gained.

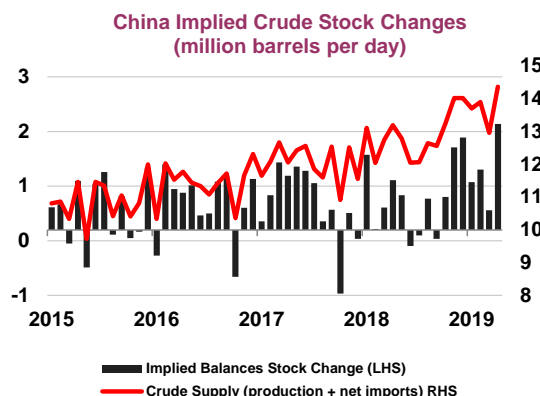
Other stock developments

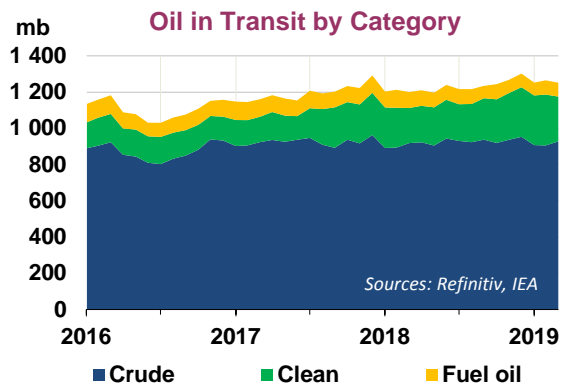
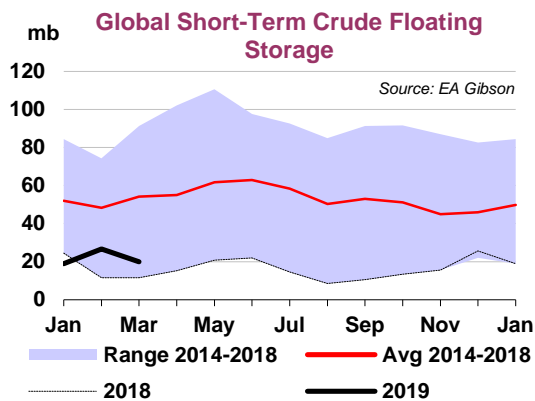
Chinese crude stocks built by 58 mb (1.9 mb/d) in April and 69 mb (770 kb/d) over 1Q19, according to figures derived from crude production, refinery runs and customs crude import data. In April, monthly Chinese crude oil imports reached a record high of 10.6 mb/d and it pushed the country's crude inventories up. In addition, lower m-o-m refinery runs in February and March played a role.

Short-term crude oil floating storage sharply decreased by 6.7 mb in March m-o-m to 19.9 mb and remained lower than the five-year average, according to *EA Gibson*.

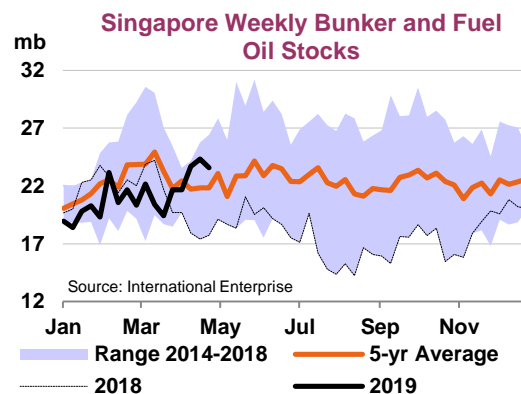
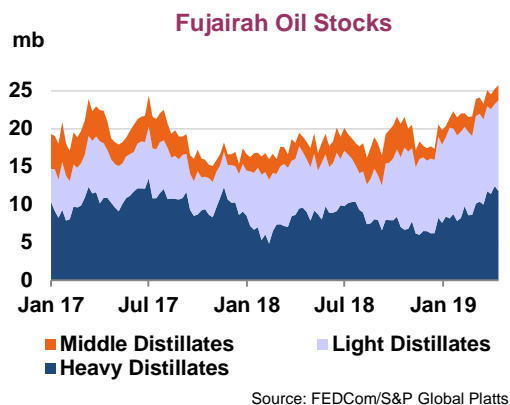
Into April, tanker tracking data from *Kpler* showed a 5 mb increase in floating storage in Iran in the second half of the month, ahead of the expiration of US waivers.

Seaborne oil in transit volumes fell in March by 13 mb to 1 252 mb, figures based on *Refinitiv* data and IEA calculations showed. Over 1Q19, volumes fell by 50.4 mb (560 kb/d), due to lower crude exports from Saudi Arabia and Russia and other signatories to the OPEC+ agreement. Clean product in transit also declined by 26.6 mb in 1Q19. In contrast, fuel oil flows were gained by 1.5 mb.





Oil stocks in Fujairah increased 2.3 mb to 25.7 mb during the week ending 29 April, their highest level since *FEDCom* and *S&P Global Platts* started publishing the data in 2017. Heavy distillates (mainly high sulphur fuel oil) gained 1.7 mb to 11.8 mb and light distillates increased 0.7 mb to 12 mb, the highest since the data was compiled in 2017. Middle distillates were largely unchanged at 2 mb.

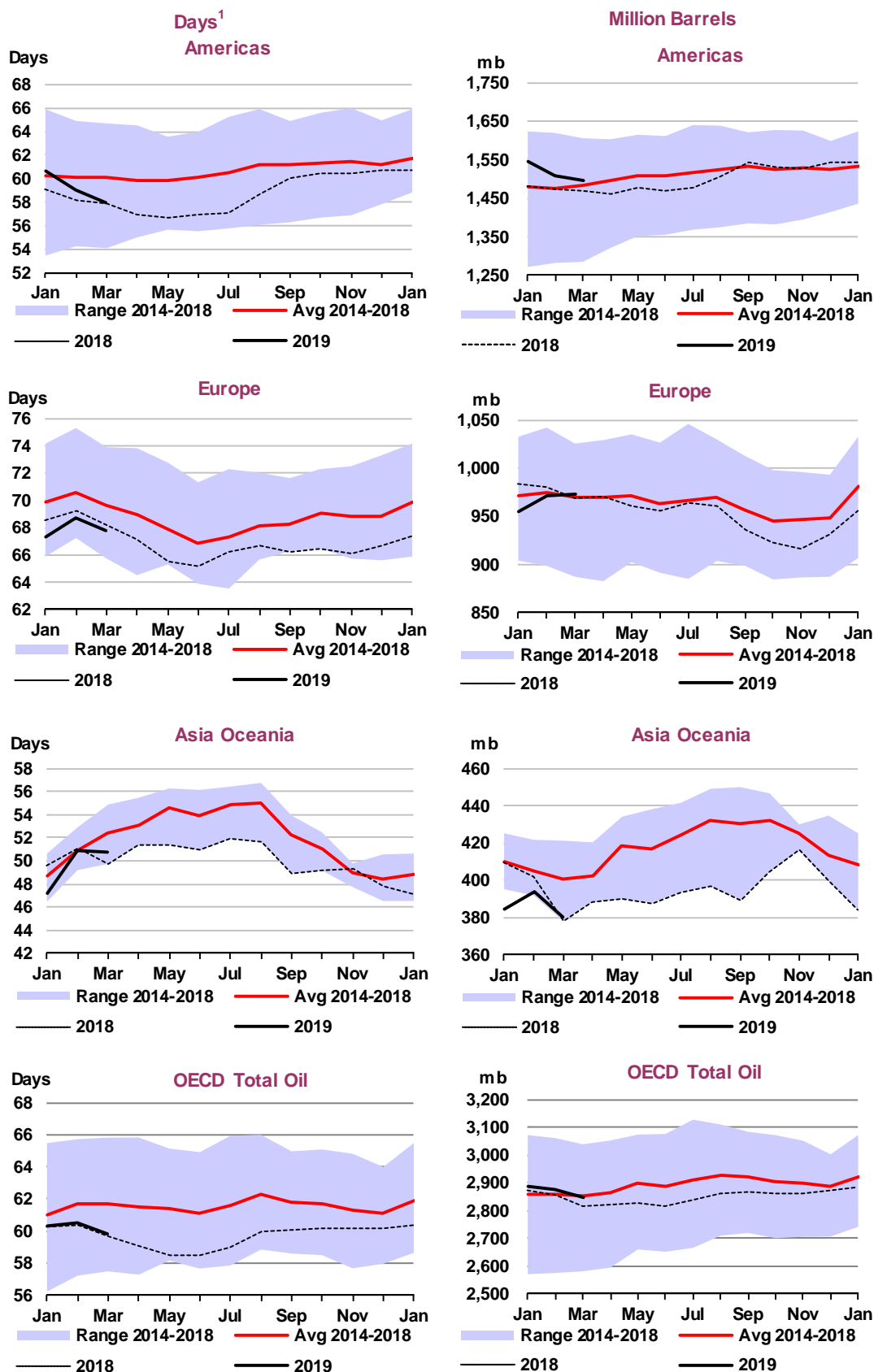


In Singapore, total inventories in April were largely unchanged at 47.8 mb. However, changes within the product categories were mixed: light distillates stocks fell 2.2 mb m-o-m to 13.6 mb, the lowest level since October 2018; middle distillates decreased by 0.6 mb to 10.5 mb; bunker and fuel oil stocks increased 3 mb to 23.7 mb, their highest since October 2017 according to the data from *Enterprise Singapore*. Meanwhile, Singapore bunker fuel sales fell to a three-year low during the month, according to data from the Maritime and Port Authority. Slower global trade activity early this year and general trade uncertainty may explain these stock builds.

Stockpiles in the 19 non-OECD countries covered by the *JODI* database fell 26.4 mb m-o-m in February to 597 mb, 6 mb lower y-o-y. Saudi crude stocks increased 3.7 mb m-o-m in February in contrast to draws seen in Nigeria (-3.5 mb) and Brazil (-4.9 mb). Saudi Arabia's oil product holdings were largely unchanged and stood at 96.3 mb. Nigerian oil product inventories fell by 4.3 mb.

Regional OECD End-of-Month Industry Stocks

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

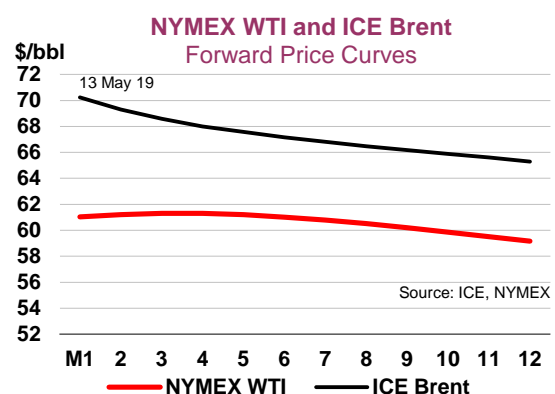
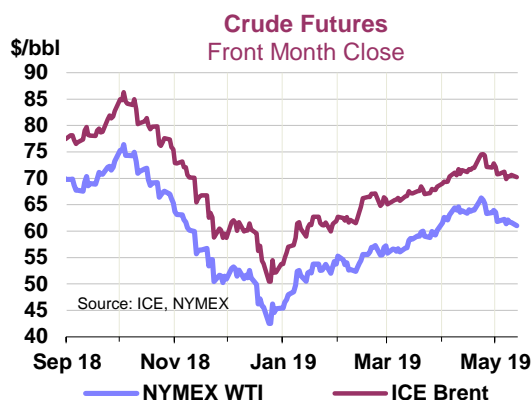


1 Days of forward demand are based on average demand over the next three months

PRICES

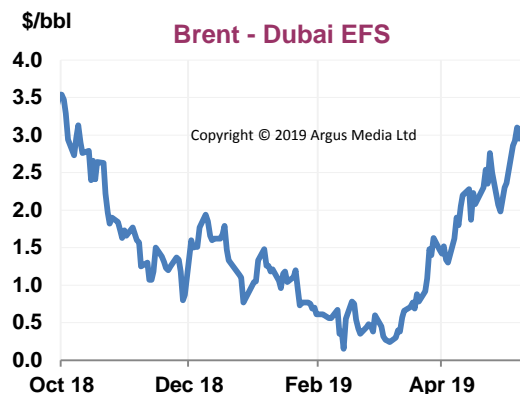
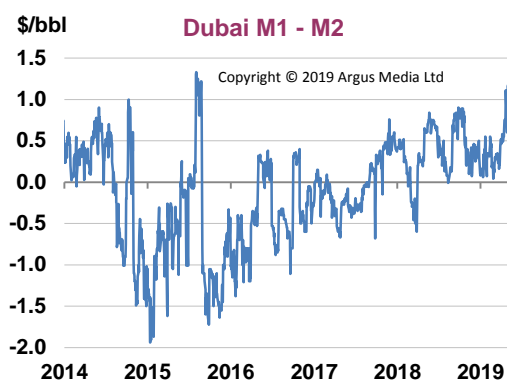
Market overview

Benchmark crude oil prices rose to five-month highs in late April, following the news that sanctions waivers granted to some buyers of Iranian crude would not be renewed. On 25 April, flows of Urals along the Druzhba pipeline to Eastern and Central Europe were halted due to contamination. This exacerbated tightness in sour crude markets. Despite this and other news, such as the declaration of *force majeure* in Nigeria, civil unrest in Libya and Algeria, and sharply lower North Sea supplies this summer, higher prices were short-lived. Since 24 April, Brent and WTI have declined by 6% and 7%, respectively, as supply fears eased on higher US output and oil demand growth is threatened by heightened trade tensions. Gasoline cracks strengthened as supplies appear tight ahead of the peak US demand season. However, cracks of other refined products were squeezed by higher crude prices and abundant Chinese exports.



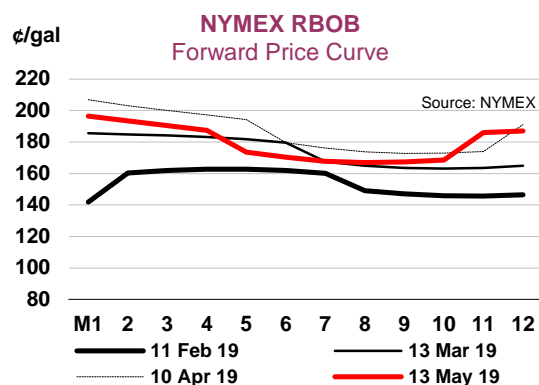
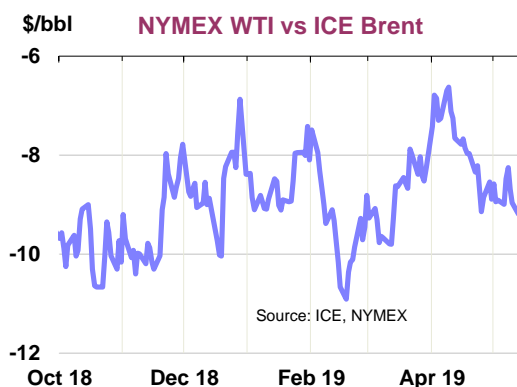
Futures markets

ICE Brent gained \$4.60/bbl month-on-month (m-o-m) in April, and NYMEX WTI increased by \$5.70/bbl. The WTI discount to Brent narrowed by \$1.10/bbl on average to \$7.76/bbl. At \$6.63/bbl on 9 April, the discount was at its narrowest since August 2018, but has since widened to over \$9/bbl.



Backwardation of the Brent futures curve continued to steepen as prices for prompt barrels rose more than later month contracts. In early May, the 12-month spread was \$4.94/bbl, having been \$0.49/bbl three months ago. The Dubai futures curve has been in backwardation since March 2018, and has recently steepened reflecting prompt tightness in sour crude markets due to OPEC+ cuts, sanctions against Venezuela and Iran, and production curbs in Canada. Despite this, the Brent-Dubai Exchange of Futures for Swaps (EFS), which can indicate the relative demand for light sweet crude (Brent-linked) versus heavy sour crude (Dubai-linked), rose by \$1.28/bbl m-o-m to its highest level since October 2018.

This is largely due to refineries increasing their purchases of light sweet crude to meet the higher demand for gasoline, while weaker fuel oil markets have reduced demand for sour grades. The increase in the Brent-Dubai EFS will stimulate demand for Dubai-linked crudes in Asia as they will be more competitive. In addition to rising cracks, the seasonal pick-up in gasoline markets is evidenced by steeper backwardation of the NYMEX RBOB futures curve and prompt gasoline futures prices rising above diesel futures for the first time in over a year.



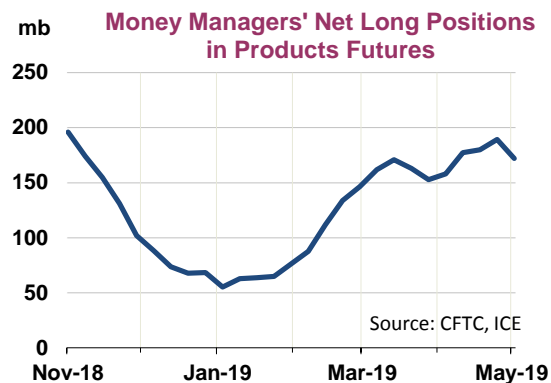
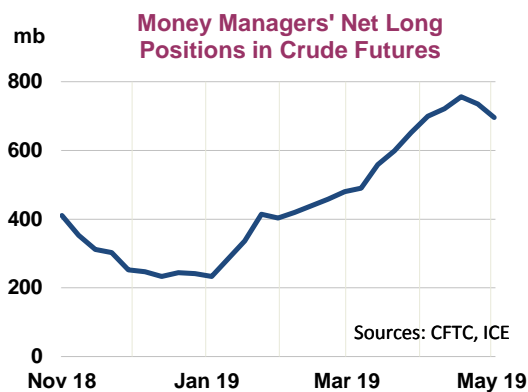
Prompt Month Oil Futures Prices

(monthly and weekly averages, \$/bbl)

	Feb	Mar	Apr	Apr-Mar Avg Chg	% Chg	Week Commencing:				
						08 Apr	15 Apr	22 Apr	29 Apr	06 May
NYMEX										
Light Sweet Crude Oil	54.98	58.17	63.87	5.70	9.8	64.09	63.80	65.28	62.95	61.83
RBOB	63.67	77.90	85.59	7.69	9.9	85.04	85.65	89.23	86.65	83.03
ULSD	82.38	83.60	86.55	2.95	3.5	86.75	86.97	87.95	87.18	86.15
ULSD (\$/mmbtu)	14.53	14.74	15.27	0.52	3.5	15.30	15.34	15.51	15.38	15.19
Henry Hub Natural Gas (\$/mmbtu)	2.68	2.81	2.60	-0.20	-7.2	2.69	2.54	2.50	2.59	2.58
ICE										
Brent	64.43	67.03	71.63	4.60	6.9	71.16	71.62	73.92	71.72	70.50
Gasoil	80.60	82.00	84.47	2.47	3.0	84.16	85.09	86.19	85.74	85.32
Prompt Month Differentials										
NYMEX WTI - ICE Brent	-9.45	-8.86	-7.76	1.10		-7.07	-7.82	-8.64	-8.77	-8.67
NYMEX ULSD - WTI	27.40	25.43	22.68	-2.75		22.66	23.17	22.67	24.23	24.32
NYMEX RBOB - WTI	8.69	19.73	21.72	1.99		20.95	21.85	23.95	23.70	21.20
NYMEX 3-2-1 Crack (RBOB)	14.92	21.63	22.04	0.41		21.52	22.29	23.52	23.87	22.24
NYMEX ULSD - Natural Gas (\$/mmbtu)	11.85	11.94	12.66	0.72		12.61	12.80	13.01	12.79	12.62
ICE Gasoil - ICE Brent	16.17	14.97	12.84	-2.13		13.00	13.47	12.27	14.02	14.82

Source: ICE, NYMEX.

Having increased their bets of higher crude oil prices for 11 consecutive weeks, money managers broke the streak and reduced their net long positions from a peak of 756 mb on 23 April to 696 mb in early May. This is below the 809 mb held when Brent prices rose to \$84/bbl in October 2018. Hedge funds' net length in product futures rose to 189 mb at the end of April, with traders betting on higher gasoil and gasoline prices. The long-short ratio for RBOB gasoline futures amongst money managers rose to 38.6 : 1 on 16 April, the highest since 2016, with very few bets that gasoline prices will fall during the upcoming travel season.



Spot crude oil prices

Spot crude oil markets rallied in April on supply concerns and as Asia Pacific demand rose following maintenance season. The end of sanctions waivers for Iranian buyers is likely to remove heavy and medium sour crude from the market, along with condensate that comes from the South Pars gas/condensate field. As refiners sought alternative sour crude grades, such as Urals, Basra Heavy and Upper Zakum, prices rose and demand picked up for condensate from Australia, Qatar and Norway. Differentials for condensate from Australia (North West Shelf) and Qatar rose m-o-m, by \$0.86/bbl and \$0.35/bbl, respectively, despite weak naphtha cracks weighing on demand.

Spot crude oil prices and differentials

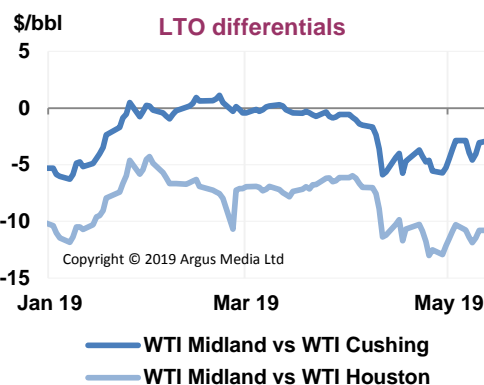
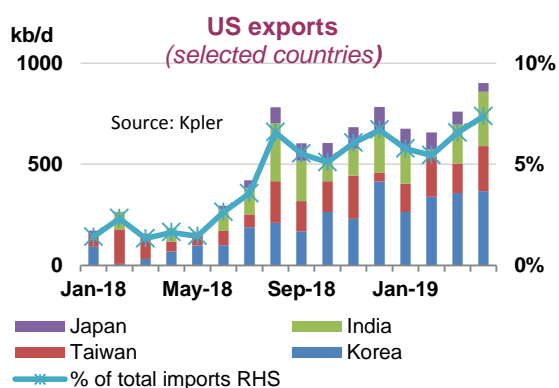
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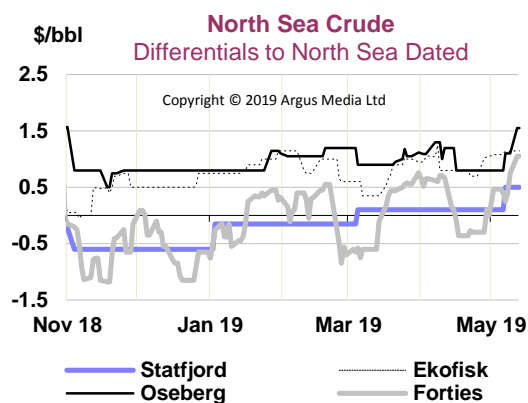
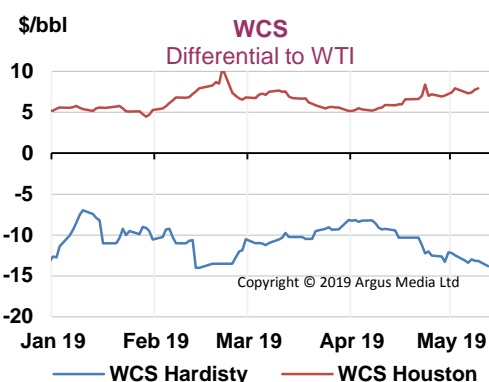
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WTI gained more than Brent in April, causing the spread to narrow by \$0.63/bbl, on increasing demand for US crude and as other sources of supply experience disruptions. Key Asian refining centres (South Korea, Taiwan, India and Japan) continue to increase their reliance on US supplies with these now accounting for 7% of their total imports, up from 2% in April 2018, according to *Kpler's* tanker tracking data. *Kpler* data also show that US flows to Europe in April were up 230 kb/d year-on-year.

The news about Iranian sanctions waivers boosted Mars and Poseidon, with prices rising by almost \$1/bbl against WTI since late April. However, differentials remain around \$2/bbl below the peaks seen earlier this year. WTI Midland fell sharply at the beginning of April and was down \$3.35/bbl against WTI m-o-m. Refinery maintenance, in particular the outage at Phillips 66's Borger refinery in Texas, weighed on demand and the differential was also pressured by some export pipeline issues.



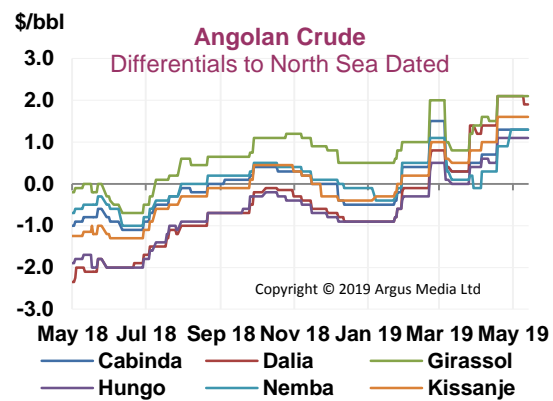
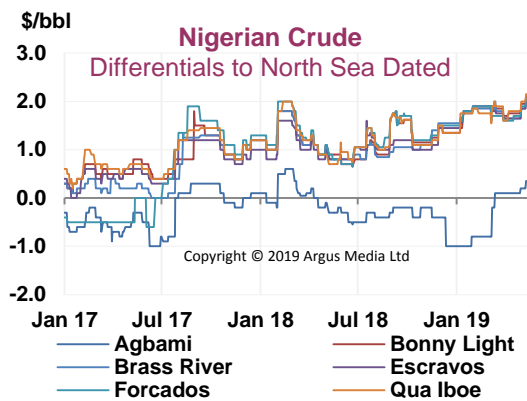
Following the relaxation of government-mandated production cuts, Canadian output is set to increase once planned maintenance in 2Q19 is completed. Western Canadian Select (WCS) priced in Hardisty fell by \$3.95/bbl against WTI to a discount of \$13.25/bbl, the lowest in two months. The price of WCS in Houston has increased by \$2.35/bbl since the beginning of April, with reduced supplies of other sour crudes available to US Gulf Coast refiners.



While the wider Brent-Dubai EFS weighed on Asia-Pacific demand for Brent-linked crude from the North Sea, the narrower Brent-WTI spread pushed North Sea exports to the US to their highest level this year, at 170 kb/d, according to Kpler. Loading programmes show that North Sea supplies will fall significantly in June due to maintenance at the Forties and Ekofisk fields. Around 200 kb/d of supplies from Ekofisk will be shut-in, while Forties production will decline by 25 kb/d m-o-m in June. Although not a surprise, this news saw the differentials for Ekofisk and Forties rise by \$0.23/bbl and \$0.30/bbl m-o-m, respectively, and supported the other grades that underpin the North Sea Dated benchmark.

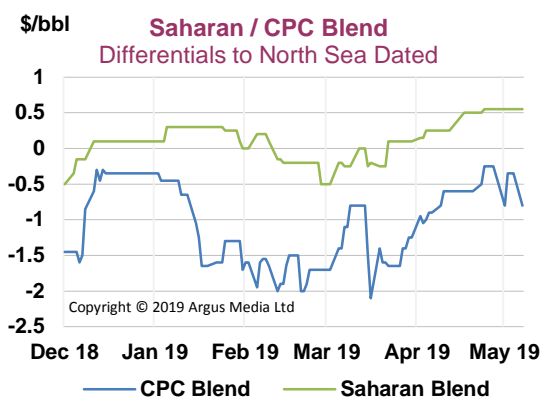
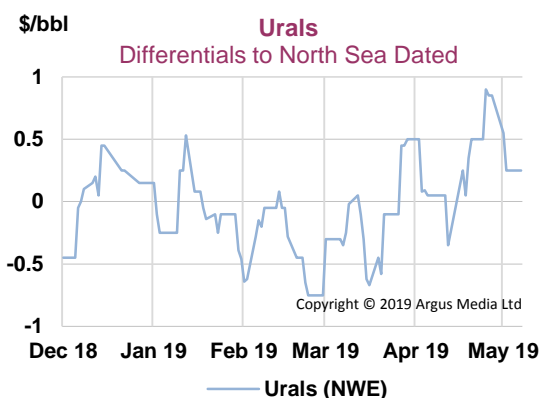
Differentials for Nigerian crudes such as Bonny Light, Escravos and Forcados declined m-o-m in April due to weaker demand. Asia-Pacific buyers were deterred as attacks on facilities disrupted supplies and *force majeure* was declared on exports of Bonny Light and Amenam crude. Nigerian exports to China fell to zero in April, having averaged 25 kb/d in 1Q19, according to Kpler. However, at the beginning of May, the price for Qua Iboe reached its highest level against North Sea Dated since August 2016, as higher gasoline cracks boosted demand.

Heavy sour Angolan crudes saw strong demand, particularly from US and Chinese refiners looking to replace supplies from OPEC+ countries as well as Venezuela and Iran. The premia for Dalia and Hongo to North Sea Dated reached their highest, at \$2.10/bbl and \$1.10/bbl, since Argus began publishing the price assessments, over 10 years ago. Dalia has traded at a premium to North Sea Dated since February, a historically rare occurrence. The expiry of Iranian sanctions waivers is likely to see demand from refiners in Asia Pacific for Angolan crude pick up. However, the higher Brent-Dubai EFS will make these supplies relatively more expensive.



At the start of May, seaborne Urals in North West Europe hit a premium of \$0.90/bbl to North Sea Dated which is the highest since at least 1994 when Argus began reporting the price assessment. Having already been boosted by tight sour crude markets, further gains are due to the disruption to Urals exports along Druzhba pipeline and from Ust-Luga port due to contamination. Earlier in April, Urals differentials had faltered as loading programmes indicated higher supplies from May but this could change depending on how the contamination issues are resolved. Meanwhile, Turkey's demand for Urals has been increasing as the new STAR refinery ramps up.

Reduced supplies due to maintenance at the Kashagan field saw CPC Blend up \$0.56/bbl m-o-m in April. Over 300 kb/d of production is expected to be offline for around six weeks from mid-April. Higher gasoline margins supported demand for Saharan Blend which reached a premium to North Sea Dated of \$0.55/bbl in early May, a 15-month high. Unrest in Libya has not yet hampered production but, nevertheless, Es Sider gained \$0.65/bbl m-o-m on fears of disruptions.



The prompt Dubai price gained \$0.39/bbl against swaps in April, evidence of increased demand for Middle Eastern crude as Asia Pacific refiners return from maintenance and as sour crude markets tightened. Furthermore, the higher Brent-Dubai EFS meant that Dubai-linked crudes were relatively more economic. Prices for Upper Zakum, Basra Heavy and Qatar Marine gained by \$0.13/bbl, \$0.38/bbl and \$0.15/bbl m-o-m, respectively, against Dubai with demand from Thailand, Taiwan and Japan remaining strong.

Spot product prices

With the exception of gasoline, product cracks fell in April, as higher crude prices and more product exports from China weighed on the complex. The closure of the Druzhba pipeline, and the fear that this may reduce European refinery output, saw regional margins tick up at the end of April. Meanwhile,

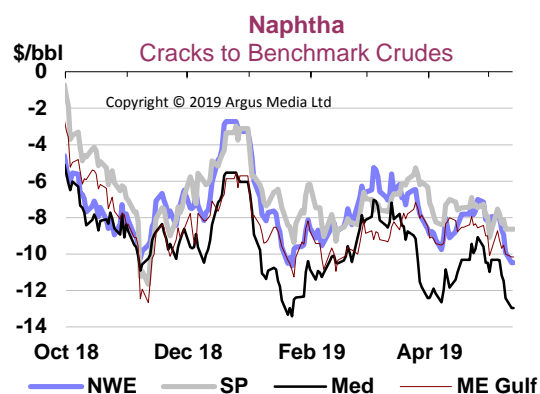
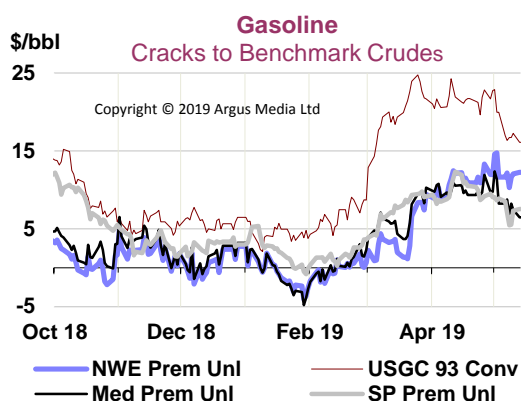
cracks in Asia rose following the shut-in of Petron's Bataan refinery in the Philippines due to an earthquake on 22 April.

Spot product prices

Table Unavailable

Available in the subscription version.

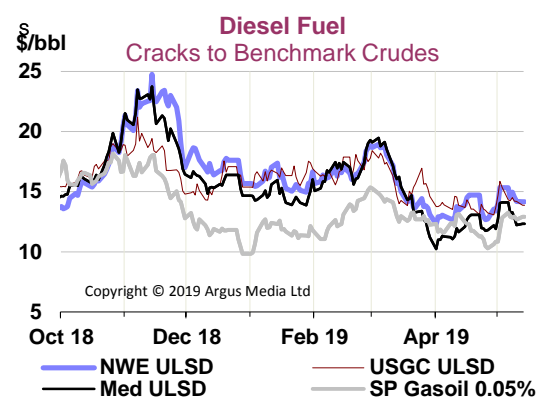
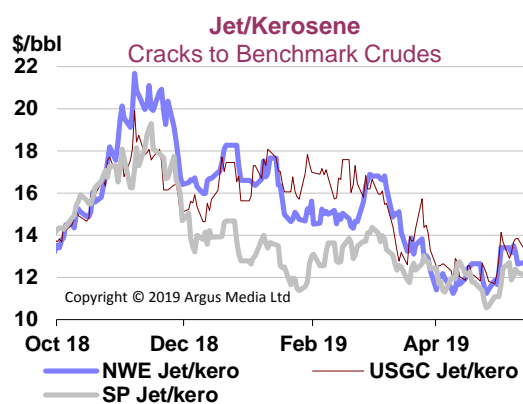
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Gasoline cracks gained for the third consecutive month, having been at seven-year lows in late January. This is in line with seasonal patterns as the summer driving season approaches in the US. In North West Europe, Rotterdam FOB barge assessments for premium unleaded gained by \$6.86/bbl over North Sea Dated, to an eight-month high, with healthy export demand, the transition to summer-grade fuel and Druzhba disruptions acting as factors. Cracks on the US Gulf Coast gained moderately, by \$1.73/bbl m-o-m, as higher export demand was offset by a weaker domestic market. While US refinery activity increased in April, utilisation rates remain relatively low by recent standards, partly in response to the low margins seen earlier in the year but also due to unplanned outages.

In North West Europe and the Mediterranean, naphtha prices fell relative to benchmark crudes by \$1.74/bbl and \$2.46/bbl m-o-m, respectively. Maintenance at petrochemical facilities in the region has weighed on demand. Higher supplies of naphtha from India and Europe saw the price of FOB cargoes in Singapore decline by \$0.79/bbl against Dubai, m-o-m. With several naphtha-fed petrochemical facilities in Asia offline due to maintenance, demand in the region has been lacklustre but should now begin to return.

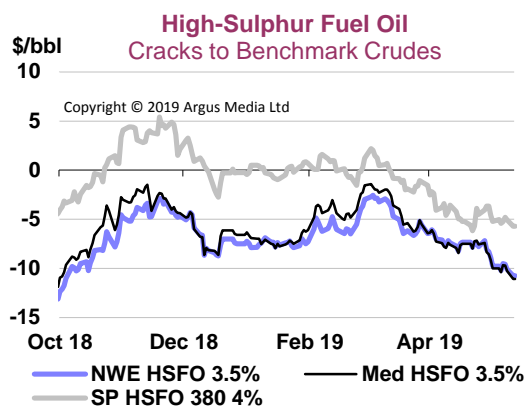
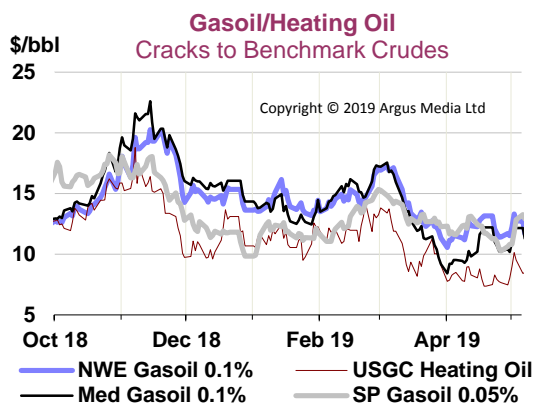
In April, cracks for jet fuel fell for the third consecutive month to the lowest in almost two years. Currently in the low demand season, demand for air travel in India has been particularly weak. Exports of jet fuel from China hit a record high due to increasing levels of refinery output well in excess of domestic demand. This caused cracks in Singapore to fall by \$1.23/bbl m-o-m, and with more supplies flowing to North West Europe and the Mediterranean, cracks there fell by \$2.75/bbl and \$3.56/bbl m-o-m, respectively. In early May, cracks jumped up with higher demand anticipated from China and Japan as upcoming holidays should boost passenger travel.



In North West Europe, ultra-low sulphur diesel (ULSD) and gasoil cracks fell by \$2.44/bbl and \$2.36/bbl m-o-m, respectively, on lower regional demand for space heating and as adverse weather stymied agricultural activity. In early May, cracks rose on reduced supplies from Russia, where maintenance is particularly heavy this year. ULSD cracks on the Gulf Coast declined by \$2.16/bbl m-o-m.

In Singapore, the price of gasoil fell by \$1.65/bbl against Dubai m-o-m despite healthy regional demand from Indonesia and India. China continues to increase supplies to the region thanks to new refineries coming on line and as the government has issued more export quotas and this offset the impact of turnarounds in India.

Global fuel oil cracks declined in April as supply concerns in the wake of Iranian sanctions eased. More supplies came from Kuwait, although Middle Eastern demand for power generation is expected to pick up seasonally in summer. Despite shipping demand, European low sulphur fuel oil (LSFO) cracks were down \$3.28/bbl m-o-m. Even the closure of the Druzhba pipeline failed to support European fuel oil markets. In Singapore, cracks for LSFO fell by \$2.77/bbl to a six-month low. Since the start of the year, Japan has significantly reduced its imports of fuel oil, instead turning to coal and LNG for power generation.



Freight

Rates to ship crude on Very Large Crude Carriers (VLCCs) from the Middle East Gulf (MEG) to Asia declined by \$0.53/bbl m-o-m to \$1.01/bbl on reduced shipments from OPEC countries. Freight rates continue to suffer due to high ship availability. Rates for Suezmaxes travelling between the UK-Continent and West Africa (WAF) rose to a three-month high on 15 April with demand to ship from WAF outstripping ship availability. Later in the month more ships arrived in the region and rates dropped back to early-April levels, slightly above the 12-month low seen at the end of March. In April, there were no weather delays on the Turkish straits, which has been a cause of higher rates in recent months. Rates for Baltic Aframaxes ticked up at the end of the month, with demand higher due to disruptions on the Druzhba pipeline.

Rates to ship clean products were largely flat m-o-m. At the end of April, rates for long range (LR) vessels travelling between the MEG and Japan came up from a five-month low on higher exports. Rates for Medium Range (MR) ships were volatile, rising to \$2.89/bbl on 25 April as lower refinery activity in the US led to increased demand for imports. Rates have since fallen to their lowest level since 1 March as demand to ship to WAF has fallen.

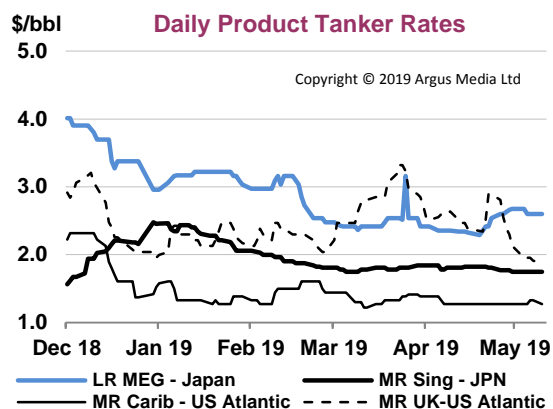
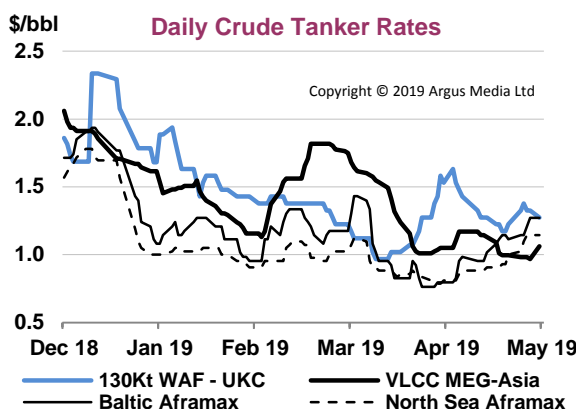


Table 1
WORLD OIL SUPPLY AND DEMAND
(million barrels per day)

	2015	2016	1Q17	2Q17	3Q17	4Q17	2017	1Q18	2Q18	3Q18	4Q18	2018	1Q19	2Q19	3Q19	4Q19	2019
OECD DEMAND																	
Americas	24.6	24.9	24.6	25.1	25.2	25.3	25.1	25.3	25.4	25.8	25.7	25.5	25.4	25.7	26.1	25.9	25.8
Europe	13.8	14.0	13.9	14.3	14.7	14.4	14.3	14.1	14.2	14.7	14.1	14.3	13.9	14.4	14.7	14.3	14.3
Asia Oceania	8.1	8.1	8.5	7.7	7.8	8.3	8.1	8.5	7.6	7.6	8.0	7.9	8.2	7.5	7.5	8.0	7.8
Total OECD	46.5	47.0	46.9	47.1	47.7	48.1	47.4	47.9	47.2	48.1	47.7	47.7	47.6	47.6	48.4	48.2	47.9
NON-OECD DEMAND																	
FSU	4.6	4.5	4.3	4.5	4.7	4.6	4.5	4.5	4.6	4.9	4.8	4.7	4.7	4.7	5.0	5.0	4.8
Europe	0.7	0.7	0.7	0.7	0.8	0.8	0.7	0.7	0.7	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
China	11.6	12.0	12.4	12.9	12.3	12.7	12.6	12.7	13.0	13.2	13.1	13.0	12.9	13.5	13.7	13.7	13.5
Other Asia	12.5	13.1	13.2	13.5	13.3	13.7	13.4	13.8	14.0	13.5	14.0	13.8	14.2	14.4	13.9	14.3	14.2
Americas	6.7	6.4	6.3	6.5	6.6	6.4	6.4	6.3	6.3	6.5	6.4	6.4	6.3	6.4	6.4	6.4	6.4
Middle East	8.5	8.5	8.2	8.7	8.9	8.2	8.5	8.2	8.5	8.8	8.2	8.4	8.3	8.7	8.9	8.3	8.5
Africa	4.2	4.3	4.4	4.3	4.2	4.3	4.3	4.3	4.3	4.2	4.3	4.3	4.4	4.4	4.2	4.4	4.3
Total Non-OECD	48.8	49.5	49.6	51.0	50.7	50.6	50.5	50.6	51.6	51.7	51.7	51.4	51.5	52.7	52.8	52.9	52.5
Total Demand¹	95.3	96.4	96.6	98.1	98.4	98.7	98.0	98.4	98.8	99.9	99.4	99.1	99.1	100.3	101.2	101.1	100.4
OECD SUPPLY																	
Americas	20.0	19.4	20.0	19.8	20.3	21.3	20.3	21.8	22.1	23.3	24.0	22.8	23.8	23.9	24.5	24.9	24.3
Europe	3.5	3.5	3.7	3.5	3.4	3.4	3.5	3.6	3.4	3.3	3.5	3.5	3.5	3.3	3.3	3.5	3.4
Asia Oceania	0.5	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.5	0.5	0.5	0.5
Total OECD ⁴	23.9	23.4	24.0	23.7	24.1	25.1	24.2	25.7	25.9	27.0	27.9	26.7	27.7	27.6	28.4	28.9	28.1
NON-OECD SUPPLY																	
FSU	14.0	14.2	14.4	14.3	14.2	14.3	14.3	14.4	14.4	14.6	14.8	14.6	14.8	14.4	14.5	14.7	14.6
Europe	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
China	4.3	4.0	3.9	3.9	3.8	3.8	3.9	3.8	3.9	3.8	3.9	3.8	3.9	4.0	3.9	3.9	3.9
Other Asia	3.6	3.6	3.5	3.4	3.4	3.4	3.5	3.4	3.3	3.3	3.3	3.3	3.3	3.2	3.2	3.2	3.2
Americas	4.6	4.5	4.6	4.5	4.5	4.5	4.5	4.5	4.5	4.4	4.6	4.5	4.5	4.7	4.9	5.0	4.8
Middle East	3.3	3.3	3.2	3.2	3.3	3.2	3.2	3.2	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3
Africa	1.5	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.5	1.5	1.4	1.4	1.5	1.5	1.5	1.5	1.5
Total Non-OECD ⁴	31.4	31.0	31.1	30.9	30.8	30.9	30.9	30.9	31.0	31.0	31.4	31.1	31.4	31.1	31.4	31.7	31.4
Processing gains ³	2.2	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3
Global Biofuels	2.3	2.4	2.0	2.5	2.8	2.5	2.5	2.1	2.8	3.1	2.5	2.6	2.2	2.8	3.0	2.7	2.7
Total Non-OPEC Supply	59.8	59.1	59.4	59.4	60.0	60.8	59.9	61.1	62.0	63.4	64.2	62.7	63.7	63.9	65.1	65.6	64.6
OPEC²																	
Crude	31.4	32.4	31.7	32.0	32.4	32.0	32.0	31.7	31.6	32.0	32.2	31.9	30.6				
NGLs	5.2	5.4	5.6	5.5	5.5	5.4	5.5	5.5	5.5	5.5	5.6	5.5	5.6	5.6	5.6	5.6	5.6
Total OPEC	36.6	37.8	37.2	37.5	37.9	37.4	37.5	37.3	37.1	37.6	37.8	37.4	36.2				
Total Supply	96.4	96.9	96.6	96.9	97.9	98.3	97.4	98.4	99.1	101.0	102.0	100.1	99.8				
STOCK CHANGES AND MISCELLANEOUS																	
Reported OECD																	
Industry	0.8	0.0	0.3	-0.1	-0.5	-1.3	-0.4	-0.5	0.0	0.6	0.1	0.0	-0.2				
Government	0.0	0.0	0.0	-0.1	-0.1	-0.1	-0.1	0.1	-0.1	0.0	-0.2	-0.1	0.1				
Total	0.8	0.0	0.3	-0.3	-0.7	-1.4	-0.5	-0.4	-0.1	0.5	-0.1	0.0	-0.2				
Floating storage/Oil in transit	0.3	0.2	0.0	-0.1	0.5	1.0	0.4	-1.0	0.3	-0.3	0.6	0.0	-0.6				
Miscellaneous to balance ⁵	0.1	0.2	-0.2	-0.9	-0.4	0.0	-0.4	1.3	0.1	0.9	2.1	1.0	1.5				
Total Stock Ch. & Misc	1.1	0.4	0.1	-1.2	-0.5	-0.4	-0.5	-0.1	0.3	1.1	2.6	1.0	0.7				
Memo items:																	
Call on OPEC crude + Stock ch. ⁶	30.3	32.0	31.6	33.2	32.9	32.4	32.5	31.8	31.2	30.9	29.6	30.9	29.9	30.9	30.5	29.9	30.3

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)

	2015	2016	1Q17	2Q17	3Q17	4Q17	2017	1Q18	2Q18	3Q18	4Q18	2018	1Q19	2Q19	3Q19	4Q19	2019
OECD DEMAND																	
Americas	-	-	-	-	-	-	-	-	-	-	-	-	-	-0.1	-	-	-
Europe	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Asia Oceania	-	-	-	-	-	-	-	-	-	-	-	-	-0.1	-	-	-	-
Total OECD	-	-	-	-	-	-	-	-	-	-	-	-	-0.1	-	-	-	-0.1
NON-OECD DEMAND																	
FSU	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Europe	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
China	-	-	-	-	-	-	-	-	-	-	-	-	-0.2	-	-	0.1	-
Other Asia	-	-	-	-	-	-	-	-	-	-	-0.1	-	-0.1	-	-	-0.1	-0.1
Americas	-	-	-	-	-	-	-	-	-	-	-	-	-0.1	-	-	-	-
Middle East	-	-	-	-	-	-	-	-	-	-	-	-	0.1	-	-	-	-
Africa	-	-	-	-	-	-	-	-	-	-	-0.1	-	-0.1	-	-	-	-0.1
Total Non-OECD	-	-	-	-	-	-	-	-	-	-0.1	-0.2	-0.1	-0.3	-	-0.1	-0.1	-0.1
Total Demand	-	-	-	-	-	-	-	-	-	-0.1	-0.2	-0.1	-0.4	-0.1	-0.1	-0.1	-0.2
OECD SUPPLY																	
Americas	-	-	-	-	-	0.1	-	-	-	-	-	-	0.1	-	0.1	0.1	0.1
Europe	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-0.1	-0.1	-
Asia Oceania	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total OECD	-	-	-	-	-	0.1	-	-	-	-	-	-	0.2	-	0.1	0.1	0.1
NON-OECD SUPPLY																	
FSU	-	-	-	-	-	-	-	-	-	-	-	-	-	-0.1	-	-	-
Europe	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
China	-	-	-	-	-	-	-	-	-	-	-	-	0.1	0.1	0.1	0.1	0.1
Other Asia	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Americas	-	-	-	-	-	-	-	-	-	-	-	-	-	-0.1	-	-	-0.1
Middle East	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Africa	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total Non-OECD	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.1	0.1	-
Processing gains	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Global Biofuels	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total Non-OPEC Supply	-	-	-	-	-	0.1	-	-	-	-	-	-	0.2	-	0.2	0.2	0.1
OPEC																	
Crude	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
NGLs	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total OPEC	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total Supply	-	-	-	-	-	0.1	-	-	-	-	-	-	0.2	-	-	-	-
STOCK CHANGES AND MISCELLANEOUS																	
REPORTED OECD																	
Industry	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Government	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Floating storage/Oil in transit	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Miscellaneous to balance	-	-	-	-	-	0.1	-	0.1	-	-	0.2	0.1	-	-	-	-	-
Total Stock Ch. & Misc	-	-	-	-	-	0.1	-	-	-	-	0.2	0.1	0.7	-	-	-	-
Memo items:																	
Call on OPEC crude + Stock ch.	-	-	-	-	-	-0.1	-	-	-	-	-0.2	-0.1	-0.7	-	-0.2	-0.2	-0.3

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

Table 2
SUMMARY OF GLOBAL OIL DEMAND

	2016	1Q17	2Q17	3Q17	4Q17	2017	1Q18	2Q18	3Q18	4Q18	2018	1Q19	2Q19	3Q19	4Q19	2019
Demand (mb/d)																
Americas	24.88	24.61	25.12	25.15	25.34	25.06	25.26	25.37	25.83	25.66	25.53	25.40	25.74	26.14	25.91	25.80
Europe	13.99	13.86	14.29	14.74	14.42	14.33	14.09	14.23	14.68	14.12	14.28	13.95	14.40	14.72	14.31	14.35
Asia Oceania	8.11	8.48	7.66	7.80	8.32	8.06	8.51	7.60	7.62	7.96	7.92	8.22	7.48	7.52	8.00	7.80
Total OECD	46.97	46.95	47.07	47.69	48.08	47.45	47.86	47.20	48.14	47.74	47.74	47.57	47.62	48.37	48.22	47.95
Asia	25.05	25.68	26.38	25.63	26.32	26.00	26.52	27.06	26.69	27.11	26.85	27.16	27.85	27.53	28.07	27.66
Middle East	8.49	8.22	8.65	8.86	8.21	8.49	8.19	8.53	8.75	8.20	8.42	8.26	8.67	8.86	8.26	8.51
Americas	6.44	6.33	6.45	6.56	6.44	6.45	6.32	6.35	6.46	6.41	6.39	6.27	6.36	6.42	6.37	6.36
FSU	4.51	4.30	4.51	4.73	4.60	4.54	4.48	4.64	4.91	4.83	4.72	4.66	4.71	4.97	5.00	4.84
Africa	4.26	4.36	4.30	4.19	4.27	4.28	4.33	4.29	4.16	4.31	4.27	4.41	4.37	4.23	4.37	4.35
Europe	0.72	0.71	0.75	0.76	0.76	0.75	0.73	0.74	0.77	0.80	0.76	0.76	0.76	0.79	0.80	0.78
Total Non-OECD	49.48	49.61	51.05	50.72	50.59	50.50	50.58	51.61	51.73	51.65	51.40	51.52	52.73	52.80	52.87	52.49
World	96.45	96.56	98.11	98.41	98.67	97.95	98.44	98.81	99.87	99.39	99.14	99.08	100.35	101.18	101.09	100.44
of which: US50	19.69	19.54	20.07	20.01	20.21	19.96	20.24	20.33	20.63	20.60	20.45	20.40	20.69	20.91	20.80	20.70
Europe 5*	8.15	8.19	8.32	8.48	8.26	8.31	8.22	8.23	8.34	8.16	8.24	8.17	8.27	8.40	8.26	8.27
China	11.99	12.44	12.88	12.33	12.65	12.58	12.75	13.02	13.19	13.14	13.03	12.92	13.47	13.66	13.74	13.45
Japan	4.01	4.30	3.58	3.63	4.06	3.89	4.27	3.43	3.53	3.89	3.78	4.08	3.38	3.48	3.86	3.70
India	4.44	4.46	4.67	4.42	4.72	4.57	4.82	4.93	4.53	4.80	4.77	5.05	5.15	4.74	5.03	4.99
Russia	3.33	3.14	3.31	3.50	3.34	3.32	3.29	3.39	3.63	3.55	3.47	3.44	3.44	3.67	3.64	3.55
Brazil	2.98	2.92	2.96	3.08	3.04	3.00	2.95	2.91	3.07	3.08	3.00	2.98	3.01	3.12	3.11	3.06
Saudi Arabia	3.30	2.93	3.41	3.62	3.13	3.27	2.93	3.18	3.32	2.96	3.10	2.98	3.31	3.43	3.09	3.20
Canada	2.47	2.37	2.36	2.52	2.52	2.45	2.32	2.34	2.56	2.49	2.43	2.30	2.35	2.56	2.47	2.42
Korea	2.61	2.62	2.49	2.57	2.65	2.58	2.63	2.55	2.48	2.44	2.52	2.53	2.49	2.46	2.52	2.50
Mexico	2.05	2.02	2.03	1.95	1.93	1.98	1.99	2.02	1.97	1.88	1.97	1.99	2.03	1.98	1.93	1.98
Iran	1.96	2.10	2.01	1.98	1.98	2.02	2.07	2.07	2.08	2.08	2.07	2.06	2.02	1.99	1.97	2.01
Total	66.98	67.04	68.10	68.10	68.50	67.94	68.48	68.41	69.33	69.07	68.83	68.91	69.61	70.39	70.42	69.83
% of World	69.4%	69.4%	69.4%	69.2%	69.4%	69.4%	69.6%	69.2%	69.4%	69.5%	69.4%	69.5%	69.4%	69.6%	69.7%	69.5%
Annual Change (% per annum)																
Americas	1.1	-0.5	2.1	-0.1	1.4	0.7	2.6	1.0	2.7	1.3	1.9	0.6	1.5	1.2	0.9	1.0
Europe	1.2	2.3	3.0	2.4	2.0	2.4	1.7	-0.4	-0.4	-2.1	-0.3	-1.0	1.2	0.2	1.4	0.4
Asia Oceania	0.0	-1.4	-0.3	0.0	-0.2	-0.5	0.4	-0.7	-2.3	-4.3	-1.8	-3.5	-1.6	-1.3	0.5	-1.5
Total OECD	1.0	0.2	2.0	0.7	1.3	1.0	2.0	0.3	0.9	-0.7	0.6	-0.6	0.9	0.5	1.0	0.4
Asia	4.1	3.1	3.7	4.4	4.0	3.8	3.3	2.6	4.1	3.0	3.2	2.4	2.9	3.2	3.6	3.0
Middle East	-0.4	1.4	0.2	-0.6	-1.3	-0.1	-0.4	-1.4	-1.2	-0.1	-0.8	0.9	1.6	1.3	0.8	1.1
Americas	-4.1	-0.3	-0.2	0.4	0.6	0.1	-0.1	-1.6	-1.5	-0.4	-0.9	-0.9	0.2	-0.6	-0.7	-0.5
FSU	-1.3	-1.1	3.6	1.0	-1.1	0.6	4.3	2.8	3.8	5.0	4.0	3.9	1.5	1.2	3.4	2.5
Africa	1.1	1.8	-0.1	1.1	-0.4	0.6	-0.6	-0.2	-0.8	0.9	-0.2	1.8	1.9	1.8	1.4	1.7
Europe	4.8	1.4	2.0	4.0	4.0	2.9	2.5	-0.9	1.4	5.4	2.0	3.7	2.9	2.5	1.0	2.6
Total Non-OECD	1.4	1.9	2.3	2.4	1.8	2.1	2.0	1.1	2.0	2.1	1.8	1.8	2.2	2.1	2.4	2.1
World	1.2	1.0	2.1	1.5	1.6	1.6	2.0	0.7	1.5	0.7	1.2	0.6	1.6	1.3	1.7	1.3
Annual Change (mb/d)																
Americas	0.28	-0.11	0.51	-0.03	0.36	0.18	0.65	0.25	0.68	0.33	0.48	0.14	0.37	0.30	0.24	0.26
Europe	0.16	0.31	0.41	0.35	0.28	0.34	0.24	-0.06	-0.05	-0.30	-0.05	-0.14	0.16	0.03	0.20	0.06
Asia Oceania	0.00	-0.12	-0.02	0.00	-0.02	-0.04	0.03	-0.05	-0.18	-0.36	-0.14	-0.30	-0.12	-0.10	0.04	-0.12
Total OECD	0.45	0.07	0.90	0.31	0.62	0.48	0.92	0.14	0.45	-0.34	0.29	-0.30	0.41	0.24	0.48	0.21
Asia	0.98	0.77	0.95	1.07	1.01	0.95	0.84	0.68	1.06	0.79	0.84	0.64	0.80	0.84	0.96	0.81
Middle East	-0.04	0.12	0.02	-0.05	-0.11	-0.01	-0.03	-0.12	-0.11	-0.01	-0.07	0.07	0.14	0.11	0.06	0.10
Americas	-0.28	-0.02	-0.01	0.02	0.04	0.01	-0.01	-0.10	-0.10	-0.03	-0.06	-0.05	0.02	-0.04	-0.04	-0.03
FSU	-0.06	-0.05	0.16	0.05	-0.05	0.03	0.18	0.12	0.18	0.23	0.18	0.18	0.07	0.06	0.16	0.12
Africa	0.05	0.08	0.00	0.05	-0.02	0.03	-0.03	-0.01	-0.03	0.04	-0.01	0.08	0.08	0.08	0.06	0.07
Europe	0.03	0.01	0.01	0.03	0.03	0.02	0.02	-0.01	0.01	0.04	0.01	0.03	0.02	0.02	0.01	0.02
Total Non-OECD	0.69	0.90	1.12	1.16	0.90	1.03	0.97	0.56	1.01	1.06	0.90	0.93	1.12	1.07	1.22	1.09
World	1.14	0.97	2.03	1.48	1.52	1.50	1.89	0.70	1.46	0.72	1.19	0.64	1.54	1.30	1.70	1.30
Revisions to Oil Demand from Last Month's Report (mb/d)																
Americas	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-0.01	-0.06	-0.01	-0.02	-0.03
Europe	0.00	0.03	0.04	0.03	0.02	0.03	0.01	0.02	0.02	-0.02	0.01	0.00	0.04	0.03	0.00	0.02
Asia Oceania	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-0.13	-0.01	-0.01	-0.01	-0.04
Total OECD	0.00	0.03	0.04	0.03	0.02	0.03	0.01	0.02	0.02	-0.02	0.01	-0.14	-0.03	0.00	-0.03	-0.05
Asia	0.00	-0.02	-0.02	-0.02	-0.02	-0.02	-0.02	-0.01	-0.02	-0.08	-0.03	-0.26	0.01	0.00	-0.03	-0.07
Middle East	0.00	0.00	0.00	0.00	0.00	0.00	-0.01	-0.01	-0.01	-0.01	-0.01	0.05	0.03	0.02	0.05	0.04
Americas	0.00	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.06	-0.02	-0.02	-0.03	-0.03
FSU	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	-0.01	-0.01	0.00	0.01
Africa	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-0.04	-0.07	-0.03	-0.09	-0.04	-0.04	-0.04	-0.05
Europe	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00
Total Non-OECD	0.00	-0.03	-0.03	-0.03	-0.03	-0.03	-0.04	-0.03	-0.07	-0.16	-0.08	-0.30	-0.03	-0.05	-0.05	-0.11
World	0.00	0.00	0.01	0.00	-0.01	0.00	-0.03	0.00	-0.05	-0.18	-0.07	-0.44	-0.06	-0.05	-0.08	-0.16
Revisions to Oil Demand Growth from Last Month's Report (mb/d)																
World	0.00	0.00	0.01	0.00	-0.02	0.00	-0.03	-0.01	-0.05	-0.17	-0.07	-0.41	-0.06	0.00	0.10	-0.09

* France, Germany, Italy, Spain and UK

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

	Latest month vs.									
	2017	2018	1Q18	2Q18	3Q18	4Q18	Dec 18	Jan 19	Feb 19 ²	Jan 19 Feb 18
Americas										
LPG and ethane	3.33	3.63	3.99	3.29	3.48	3.77	3.91	4.34	4.27	-0.08 0.35
Naphtha	0.34	0.29	0.28	0.27	0.31	0.32	0.31	0.24	0.25	0.01 -0.04
Motor gasoline	11.11	11.08	10.73	11.28	11.29	11.03	10.90	10.46	10.69	0.23 0.16
Jet and kerosene	1.98	2.03	1.95	2.04	2.12	2.01	1.98	1.95	1.92	-0.03 0.02
Gasoil/diesel oil	5.14	5.38	5.39	5.38	5.30	5.47	5.16	5.51	5.61	0.10 0.43
Residual fuel oil	0.68	0.67	0.63	0.68	0.71	0.67	0.71	0.63	0.66	0.03 0.05
Other products	2.47	2.44	2.31	2.42	2.62	2.40	2.22	2.18	1.88	-0.30 -0.37
Total	25.06	25.53	25.26	25.37	25.83	25.66	25.19	25.31	25.27	-0.04 0.59
Europe										
LPG and ethane	1.14	1.16	1.25	1.12	1.15	1.11	1.15	1.15	1.14	0.00 -0.09
Naphtha	1.12	1.01	1.13	0.99	1.00	0.92	0.99	1.17	1.10	-0.06 -0.07
Motor gasoline	1.97	1.98	1.86	2.05	2.06	1.95	1.92	1.79	1.87	0.08 -0.05
Jet and kerosene	1.45	1.52	1.38	1.54	1.71	1.46	1.39	1.39	1.38	-0.01 -0.02
Gasoil/diesel oil	6.48	6.45	6.44	6.34	6.45	6.57	6.19	6.41	6.60	0.19 -0.24
Residual fuel oil	0.89	0.88	0.89	0.89	0.90	0.84	0.84	0.89	0.93	0.03 0.01
Other products	1.29	1.28	1.14	1.30	1.42	1.27	1.14	1.01	1.17	0.16 0.01
Total	14.33	14.28	14.09	14.23	14.68	14.12	13.62	13.80	14.19	0.39 -0.45
Asia Oceania										
LPG and ethane	0.75	0.72	0.82	0.72	0.65	0.70	0.77	0.84	0.85	0.01 0.01
Naphtha	2.04	1.99	2.04	1.92	1.97	2.02	2.07	2.10	2.12	0.03 -0.01
Motor gasoline	1.54	1.53	1.51	1.51	1.59	1.52	1.58	1.45	1.51	0.07 -0.02
Jet and kerosene	0.91	0.91	1.18	0.74	0.72	1.00	1.19	1.23	1.22	-0.01 -0.12
Gasoil/diesel oil	1.89	1.92	1.95	1.90	1.88	1.96	1.99	1.94	2.01	0.06 -0.01
Residual fuel oil	0.58	0.55	0.66	0.49	0.52	0.53	0.53	0.53	0.55	0.02 -0.16
Other products	0.35	0.30	0.35	0.32	0.30	0.23	0.25	0.23	0.22	0.00 -0.09
Total	8.06	7.92	8.51	7.60	7.62	7.96	8.38	8.31	8.48	0.17 -0.41
OECD										
LPG and ethane	5.21	5.51	6.06	5.13	5.28	5.58	5.83	6.33	6.26	-0.07 0.27
Naphtha	3.50	3.29	3.45	3.18	3.27	3.26	3.37	3.51	3.47	-0.03 -0.13
Motor gasoline	14.62	14.59	14.10	14.84	14.93	14.50	14.40	13.69	14.07	0.37 0.08
Jet and kerosene	4.35	4.46	4.51	4.33	4.55	4.47	4.56	4.57	4.52	-0.05 -0.11
Gasoil/diesel oil	13.51	13.76	13.77	13.63	13.63	13.99	13.34	13.86	14.21	0.35 0.18
Residual fuel oil	2.15	2.11	2.18	2.06	2.14	2.04	2.09	2.05	2.14	0.08 -0.11
Other products	4.11	4.02	3.80	4.04	4.33	3.90	3.60	3.42	3.27	-0.15 -0.45
Total	47.45	47.74	47.86	47.20	48.14	47.74	47.19	47.43	47.94	0.51 -0.27

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	1Q18	2Q18	3Q18	4Q18	Dec 18	Jan 19	Feb 19 ²	Latest month vs.	
										Jan 19	Feb 18
United States³											
LPG and ethane	2.54	2.85	3.12	2.58	2.68	3.04	3.23	3.45	3.39	-0.06	0.38
Naphtha	0.23	0.23	0.21	0.20	0.24	0.24	0.24	0.20	0.21	0.01	-0.01
Motor gasoline	9.33	9.32	9.01	9.51	9.51	9.25	9.22	8.74	8.96	0.22	0.15
Jet and kerosene	1.69	1.72	1.65	1.73	1.78	1.70	1.67	1.66	1.62	-0.04	0.02
Gasoil/diesel oil	3.93	4.13	4.18	4.13	4.05	4.18	4.03	4.36	4.33	-0.02	0.37
Residual fuel oil	0.34	0.32	0.28	0.32	0.34	0.34	0.40	0.30	0.30	0.00	0.02
Other products	1.90	1.88	1.78	1.86	2.04	1.85	1.70	1.74	1.38	-0.37	-0.35
Total	19.96	20.45	20.24	20.33	20.63	20.60	20.48	20.45	20.19	-0.26	0.58
Japan											
LPG and ethane	0.39	0.37	0.46	0.35	0.31	0.36	0.40	0.45	0.48	0.03	0.02
Naphtha	0.77	0.73	0.75	0.66	0.70	0.80	0.79	0.79	0.82	0.03	0.02
Motor gasoline	0.88	0.87	0.84	0.85	0.92	0.86	0.91	0.78	0.84	0.06	-0.02
Jet and kerosene	0.51	0.50	0.73	0.37	0.33	0.57	0.73	0.73	0.77	0.03	-0.10
Diesel	0.43	0.45	0.43	0.44	0.45	0.48	0.48	0.42	0.48	0.05	0.02
Other gasoil	0.35	0.33	0.40	0.29	0.28	0.33	0.36	0.36	0.38	0.02	-0.06
Residual fuel oil	0.28	0.28	0.34	0.23	0.27	0.27	0.27	0.25	0.29	0.04	-0.09
Other products	0.28	0.26	0.31	0.24	0.27	0.24	0.26	0.27	0.25	-0.02	-0.03
Total	3.89	3.78	4.27	3.43	3.53	3.89	4.20	4.06	4.31	0.25	-0.25
Germany											
LPG and ethane	0.13	0.11	0.11	0.13	0.11	0.09	0.10	0.11	0.13	0.03	0.03
Naphtha	0.30	0.26	0.30	0.27	0.25	0.24	0.27	0.35	0.35	0.00	0.00
Motor gasoline	0.50	0.49	0.50	0.50	0.50	0.48	0.47	0.46	0.48	0.02	-0.04
Jet and kerosene	0.22	0.22	0.19	0.23	0.24	0.21	0.21	0.20	0.21	0.01	0.02
Diesel	0.76	0.73	0.70	0.74	0.76	0.73	0.63	0.68	0.75	0.06	0.02
Other gasoil	0.37	0.33	0.41	0.27	0.29	0.37	0.37	0.50	0.45	-0.05	-0.01
Residual fuel oil	0.08	0.07	0.09	0.08	0.07	0.06	0.07	0.07	0.07	-0.01	-0.02
Other products	0.09	0.10	0.07	0.09	0.12	0.11	0.07	0.06	0.06	0.01	0.00
Total	2.46	2.33	2.37	2.30	2.34	2.29	2.19	2.44	2.50	0.06	-0.01
Italy											
LPG and ethane	0.10	0.10	0.12	0.09	0.09	0.11	0.12	0.11	0.11	0.00	-0.02
Naphtha	0.09	0.07	0.09	0.06	0.07	0.05	0.04	0.02	0.00	-0.02	-0.08
Motor gasoline	0.16	0.16	0.15	0.17	0.17	0.15	0.16	0.11	0.11	0.00	-0.05
Jet and kerosene	0.11	0.11	0.09	0.11	0.13	0.10	0.09	0.09	0.08	-0.01	-0.01
Diesel	0.47	0.50	0.50	0.50	0.49	0.50	0.49	0.49	0.49	0.00	-0.04
Other gasoil	0.08	0.08	0.07	0.08	0.09	0.09	0.08	0.07	0.07	0.00	-0.02
Residual fuel oil	0.08	0.08	0.08	0.08	0.07	0.07	0.06	0.07	0.06	-0.01	-0.02
Other products	0.15	0.17	0.15	0.17	0.18	0.18	0.16	0.15	0.17	0.02	0.02
Total	1.24	1.27	1.25	1.27	1.29	1.26	1.20	1.10	1.08	-0.02	-0.22
France											
LPG and ethane	0.12	0.11	0.14	0.10	0.09	0.10	0.11	0.14	0.14	0.00	-0.01
Naphtha	0.12	0.12	0.12	0.14	0.13	0.09	0.10	0.13	0.14	0.01	0.02
Motor gasoline	0.18	0.19	0.17	0.20	0.20	0.19	0.17	0.17	0.18	0.01	0.01
Jet and kerosene	0.16	0.17	0.15	0.17	0.19	0.16	0.16	0.16	0.16	0.00	0.01
Diesel	0.72	0.70	0.70	0.71	0.70	0.70	0.65	0.65	0.69	0.04	-0.02
Other gasoil	0.25	0.24	0.27	0.19	0.23	0.25	0.22	0.29	0.27	-0.02	-0.04
Residual fuel oil	0.05	0.05	0.06	0.05	0.05	0.05	0.05	0.05	0.06	0.00	0.00
Other products	0.12	0.13	0.10	0.13	0.14	0.13	0.11	0.11	0.09	-0.01	-0.02
Total	1.74	1.70	1.71	1.69	1.74	1.68	1.58	1.70	1.73	0.03	-0.06
United Kingdom											
LPG and ethane	0.14	0.14	0.15	0.15	0.13	0.14	0.15	0.13	0.16	0.03	0.02
Naphtha	0.03	0.03	0.03	0.03	0.02	0.03	0.03	0.03	0.03	0.00	0.00
Motor gasoline	0.29	0.28	0.27	0.29	0.28	0.28	0.28	0.28	0.30	0.02	0.00
Jet and kerosene	0.32	0.34	0.36	0.33	0.35	0.33	0.33	0.35	0.34	-0.01	-0.02
Diesel	0.52	0.53	0.50	0.54	0.53	0.53	0.53	0.49	0.55	0.06	-0.05
Other gasoil	0.14	0.15	0.13	0.15	0.16	0.14	0.13	0.10	0.14	0.04	0.00
Residual fuel oil	0.03	0.03	0.03	0.03	0.02	0.02	0.02	0.02	0.02	0.00	0.00
Other products	0.12	0.12	0.11	0.12	0.13	0.12	0.12	0.12	0.13	0.00	0.02
Total	1.58	1.61	1.58	1.64	1.63	1.59	1.59	1.52	1.67	0.15	-0.04
Canada											
LPG and ethane	0.39	0.35	0.42	0.30	0.38	0.32	0.28	0.43	0.42	-0.01	-0.03
Naphtha	0.10	0.05	0.06	0.05	0.05	0.05	0.06	0.01	0.01	0.00	-0.05
Motor gasoline	0.85	0.84	0.78	0.83	0.88	0.87	0.80	0.78	0.78	0.00	0.01
Jet and kerosene	0.15	0.17	0.14	0.16	0.19	0.16	0.17	0.16	0.17	0.01	0.02
Diesel	0.29	0.26	0.26	0.27	0.26	0.26	0.26	0.56	0.60	0.04	0.33
Other gasoil	0.27	0.32	0.28	0.29	0.34	0.37	0.29	0.00	0.00	0.00	-0.28
Residual fuel oil	0.06	0.08	0.06	0.09	0.07	0.09	0.10	0.06	0.10	0.03	0.04
Other products	0.35	0.36	0.32	0.36	0.38	0.36	0.35	0.26	0.29	0.04	-0.03
Total	2.45	2.43	2.32	2.34	2.56	2.49	2.31	2.26	2.38	0.12	0.00

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

² Latest official OECD submissions (MOS).

³ US figures exclude US territories.

Table 3
WORLD OIL PRODUCTION

(million barrels per day)

	2017	2018	2019	4Q18	1Q19	2Q19	3Q19	4Q19	Feb 19	Mar 19	Apr 19
OPEC											
Crude Oil											
Saudi Arabia	9.96	10.33		10.78	10.06				10.14	9.80	9.81
Iran	3.81	3.58		3.03	2.73				2.74	2.74	2.61
Iraq	4.47	4.57		4.68	4.67				4.70	4.56	4.63
UAE	2.93	3.00		3.26	3.06				3.05	3.05	3.05
Kuwait	2.71	2.75		2.78	2.71				2.71	2.71	2.69
Neutral Zone	0.00	0.00		0.00	0.00				0.00	0.00	0.00
Angola	1.64	1.49		1.45	1.44				1.43	1.41	1.41
Nigeria	1.53	1.60		1.63	1.68				1.69	1.69	1.79
Libya	0.83	0.97		1.08	0.96				0.90	1.07	1.17
Algeria	1.05	1.04		1.07	1.03				1.03	1.02	1.02
Congo	0.26	0.32		0.33	0.35				0.35	0.36	0.35
Gabon	0.20	0.19		0.18	0.22				0.22	0.22	0.20
Equatorial Guinea	0.13	0.12		0.11	0.11				0.10	0.12	0.12
Ecuador	0.53	0.52		0.52	0.53				0.53	0.53	0.53
Venezuela	1.97	1.40		1.30	1.08				1.14	0.87	0.83
Total Crude Oil	32.01	31.88		32.19	30.61				30.73	30.15	30.21
Total NGLs ¹	5.51	5.55	5.57	5.57	5.57	5.57	5.57	5.57	5.57	5.57	5.57
Total OPEC²	37.52	37.42		37.75	36.18				36.30	35.72	35.78
NON-OPEC³											
OECD											
Americas	20.34	22.79	24.28	23.96	23.80	23.88	24.55	24.90	23.66	24.01	23.76
United States	13.29	15.49	17.17	16.54	16.65	17.01	17.38	17.63	16.57	16.78	16.89
Mexico	2.23	2.08	1.91	1.95	1.92	1.92	1.91	1.91	1.95	1.94	1.93
Canada	4.82	5.21	5.19	5.45	5.22	4.94	5.25	5.36	5.13	5.28	4.93
Chile	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Europe	3.48	3.47	3.38	3.54	3.46	3.27	3.33	3.47	3.46	3.45	3.38
UK	1.01	1.11	1.15	1.16	1.19	1.14	1.09	1.19	1.24	1.18	1.17
Norway	1.97	1.85	1.74	1.86	1.78	1.64	1.76	1.79	1.75	1.78	1.73
Others	0.50	0.51	0.48	0.52	0.49	0.48	0.48	0.48	0.47	0.49	0.48
Asia Oceania	0.39	0.41	0.48	0.44	0.44	0.47	0.49	0.51	0.45	0.46	0.47
Australia	0.31	0.34	0.42	0.37	0.38	0.41	0.43	0.45	0.38	0.40	0.40
Others	0.07	0.07	0.06	0.06	0.07	0.06	0.06	0.06	0.07	0.06	0.06
Total OECD	24.21	26.67	28.14	27.93	27.70	27.62	28.36	28.88	27.57	27.93	27.61
NON-OECD											
Former USSR	14.30	14.56	14.60	14.83	14.80	14.35	14.51	14.73	14.84	14.72	14.37
Russia	11.32	11.49	11.60	11.75	11.67	11.51	11.58	11.66	11.67	11.63	11.56
Others	2.98	3.07	2.99	3.08	3.13	2.84	2.93	3.06	3.17	3.08	2.81
Asia	7.34	7.19	7.16	7.21	7.20	7.22	7.09	7.12	7.16	7.28	7.21
China	3.87	3.85	3.93	3.89	3.92	3.97	3.89	3.92	3.89	3.99	3.95
Malaysia	0.72	0.72	0.70	0.71	0.71	0.71	0.67	0.70	0.70	0.71	0.71
India	0.86	0.84	0.81	0.82	0.82	0.81	0.82	0.81	0.82	0.83	0.81
Indonesia	0.84	0.80	0.77	0.79	0.77	0.77	0.76	0.76	0.78	0.77	0.77
Others	1.05	0.98	0.95	0.99	0.97	0.96	0.95	0.94	0.97	0.97	0.96
Europe	0.13	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12
Americas	4.54	4.50	4.78	4.56	4.49	4.69	4.90	5.02	4.42	4.48	4.58
Brazil	2.74	2.70	2.96	2.73	2.65	2.87	3.09	3.22	2.58	2.65	2.76
Argentina	0.57	0.58	0.59	0.59	0.59	0.59	0.59	0.59	0.59	0.59	0.59
Colombia	0.86	0.87	0.88	0.89	0.90	0.89	0.88	0.87	0.90	0.89	0.89
Others	0.37	0.35	0.34	0.35	0.35	0.34	0.34	0.34	0.36	0.35	0.34
Middle East	3.22	3.27	3.27	3.30	3.28	3.27	3.26	3.27	3.28	3.29	3.27
Oman	0.98	0.99	0.98	1.00	0.98	0.97	0.97	0.98	0.98	0.98	0.97
Qatar	1.97	2.01	2.01	2.01	2.02	2.01	2.01	2.01	2.02	2.03	2.02
Syria	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02
Yemen	0.03	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04
Others	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.22	0.21	0.21
Africa	1.41	1.45	1.47	1.43	1.47	1.48	1.47	1.47	1.48	1.48	1.49
Egypt	0.64	0.65	0.64	0.65	0.65	0.64	0.64	0.64	0.64	0.65	0.65
Others	0.77	0.80	0.83	0.78	0.82	0.84	0.83	0.83	0.83	0.83	0.85
Total Non-OECD	30.94	31.09	31.39	31.44	31.36	31.12	31.35	31.73	31.29	31.36	31.05
Processing gains ⁴	2.29	2.32	2.35	2.32	2.35	2.35	2.35	2.35	2.35	2.35	2.35
Global Biofuels	2.46	2.62	2.69	2.51	2.24	2.79	3.04	2.68	2.13	2.28	2.55
TOTAL NON-OPEC	59.90	62.70	64.58	64.21	63.65	63.89	65.10	65.64	63.34	63.92	63.55
TOTAL SUPPLY	97.42	100.12		101.96	99.83				99.64	99.63	99.33

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			
	Nov2018	Dec2018	Jan2019	Feb2019	Mar2019*	Mar2016	Mar2017	Mar2018	2Q2018	3Q2018	4Q2018	1Q2019
OECD Americas												
Crude	610.5	604.3	610.4	605.8	605.5	661.4	697.4	584.9	-0.14	0.00	0.35	0.01
Motor Gasoline	257.6	278.3	293.0	277.5	260.3	273.0	271.6	273.0	-0.07	0.04	0.09	-0.22
Middle Distillate	193.8	217.3	214.7	205.7	196.9	240.5	227.4	205.8	-0.16	0.27	0.01	-0.23
Residual Fuel Oil	35.1	34.2	36.7	33.7	35.0	50.8	44.8	40.8	-0.06	0.00	-0.01	0.01
Total Products ³	717.9	749.1	747.0	712.5	696.9	756.7	731.7	703.4	0.06	0.61	-0.17	-0.56
Total ⁴	1526.7	1541.9	1544.9	1509.9	1496.1	1592.0	1605.5	1468.4	0.03	0.76	0.01	-0.48
OECD Europe												
Crude	327.6	322.6	324.2	338.2	338.8	350.8	359.9	344.3	0.12	-0.31	-0.05	0.18
Motor Gasoline	89.8	95.3	107.8	105.9	103.3	100.9	100.5	96.6	-0.14	0.01	0.11	0.09
Middle Distillate	246.0	261.7	263.0	267.4	270.9	321.4	311.0	268.8	-0.13	0.18	-0.12	0.10
Residual Fuel Oil	58.5	56.4	60.5	58.2	59.2	82.5	69.2	61.2	-0.01	-0.03	-0.01	0.03
Total Products ³	509.9	528.5	549.0	551.4	551.6	603.3	591.3	544.5	-0.29	0.16	-0.05	0.26
Total ⁴	916.9	930.6	955.2	971.2	973.2	1025.5	1021.7	968.5	-0.14	-0.21	-0.06	0.47
OECD Asia Oceania												
Crude	160.7	154.4	152.8	167.5	160.9	196.0	188.6	161.1	0.01	-0.24	0.16	0.07
Motor Gasoline	25.2	24.1	26.3	25.5	25.0	26.1	23.0	24.0	0.00	0.00	0.00	0.01
Middle Distillate	78.1	73.7	64.3	63.2	66.8	59.0	59.4	62.0	0.04	0.13	-0.04	-0.08
Residual Fuel Oil	19.8	20.5	20.6	20.9	19.7	19.9	18.5	18.2	0.03	-0.01	0.01	-0.01
Total Products ³	187.9	180.7	169.0	167.8	163.0	166.1	155.4	161.2	0.04	0.22	-0.04	-0.20
Total ⁴	416.0	399.4	384.2	394.0	380.0	421.3	403.7	378.0	0.11	0.02	0.11	-0.21
Total OECD												
Crude	1098.8	1081.3	1087.4	1111.5	1105.2	1208.2	1245.8	1090.2	0.00	-0.55	0.46	0.26
Motor Gasoline	372.6	397.7	427.1	408.9	388.6	400.0	395.1	393.6	-0.20	0.05	0.20	-0.12
Middle Distillate	518.0	552.8	542.1	536.4	534.6	620.9	597.7	536.6	-0.25	0.58	-0.16	-0.20
Residual Fuel Oil	113.4	111.0	117.8	112.8	113.8	153.1	132.5	120.2	-0.05	-0.04	-0.01	0.03
Total Products ³	1415.7	1458.3	1464.9	1431.7	1411.4	1526.1	1478.3	1409.2	-0.19	0.99	-0.26	-0.50
Total ⁴	2859.5	2871.9	2884.2	2875.1	2849.4	3038.7	3030.9	2815.0	0.00	0.57	0.05	-0.23

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			
	Nov2018	Dec2018	Jan2019	Feb2019	Mar2019*	Mar2016	Mar2017	Mar2018	2Q2018	3Q2018	4Q2018	1Q2019
OECD Americas												
Crude	649.6	649.1	649.1	649.1	649.1	695.1	691.5	665.5	-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	209.2	208.2	205.5	206.1	206.9	206.5	205.3	207.6	0.01	0.01	-0.01	-0.01
Products	264.6	266.3	269.8	273.0	272.9	267.9	275.0	274.2	-0.01	-0.04	-0.03	0.07
OECD Asia Oceania												
Crude	380.8	381.1	380.6	379.9	379.9	384.2	384.1	383.4	0.00	0.00	-0.02	-0.01
Products	38.7	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	1239.6	1238.4	1235.2	1235.1	1236.0	1285.8	1280.9	1256.5	-0.05	0.01	-0.15	-0.03
Products	305.3	307.0	310.6	313.7	313.7	305.1	315.0	314.9	-0.01	-0.04	-0.03	0.07
Total ⁴	1547.7	1547.4	1548.9	1551.8	1552.6	1594.8	1599.5	1574.7	-0.06	-0.05	-0.19	0.06

* estimated

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

2 Closing stock levels.

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

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

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

Table 5
TOTAL STOCKS ON LAND IN OECD 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	-	-	-
Chile	10.8	29	12.3	34	11.6	32	10.4	-	-	-
Mexico	47.3	23	39.1	20	40.6	22	54.7	-	-	-
United States ⁴	1863.8	92	1869.2	91	1933.6	94	1913.5	-	-	-
Total ⁴	2135.9	84	2133.1	83	2203.3	86	2193.0	86	2147.3	83
OECD Asia Oceania										
Australia	40.3	33	42.4	35	42.6	35	40.7	-	-	-
Israel	-	-	-	-	-	-	-	-	-	-
Japan	538.6	157	549.4	155	561.2	144	564.8	-	-	-
Korea	213.0	84	209.6	84	200.0	82	205.8	-	-	-
New Zealand	8.0	50	8.4	50	7.8	43	7.9	-	-	-
Total	800.0	105	809.8	106	811.6	102	819.2	100	798.7	107
OECD Europe⁵										
Austria	23.0	83	21.2	74	20.2	73	20.9	-	-	-
Belgium	46.0	73	43.3	68	44.0	67	42.0	-	-	-
Czech Republic	22.7	104	21.4	97	21.5	99	22.8	-	-	-
Denmark	22.1	135	22.8	142	20.6	126	20.3	-	-	-
Estonia	2.5	81	2.6	89	2.6	91	2.9	-	-	-
Finland	41.0	190	40.8	183	40.0	186	39.9	-	-	-
France	166.0	98	168.5	97	164.6	98	160.8	-	-	-
Germany	279.9	121	278.2	119	273.0	119	271.0	-	-	-
Greece	33.3	115	32.1	99	34.4	113	32.1	-	-	-
Hungary	26.1	147	25.2	138	25.6	143	25.6	-	-	-
Ireland	11.4	73	10.0	65	9.9	61	10.2	-	-	-
Italy	125.8	99	125.4	97	124.5	99	125.1	-	-	-
Latvia	3.1	72	3.6	79	2.3	59	2.4	-	-	-
Luxembourg	0.6	9	0.4	7	0.5	8	0.5	-	-	-
Netherlands	147.8	159	142.4	151	143.8	158	139.2	-	-	-
Norway	27.2	126	26.4	99	24.1	112	26.7	-	-	-
Poland	75.0	111	75.7	105	74.1	108	76.8	-	-	-
Portugal	24.8	106	23.8	94	23.5	98	24.6	-	-	-
Slovak Republic	12.1	132	11.6	135	12.0	131	11.8	-	-	-
Slovenia	5.1	92	4.9	85	4.8	89	5.0	-	-	-
Spain	124.7	94	117.9	88	119.7	89	115.9	-	-	-
Sweden	38.7	115	37.7	119	34.5	107	35.8	-	-	-
Switzerland	33.1	158	33.6	159	33.0	142	30.8	-	-	-
Turkey	84.1	87	90.1	80	87.0	100	87.6	-	-	-
United Kingdom	77.9	47	82.1	50	77.5	49	76.4	-	-	-
Total	1453.8	102	1441.7	98	1417.5	100	1407.0	101	1456.0	101
Total OECD	4389.7	93	4384.6	91	4432.4	93	4419.2	93	4402.0	92
DAYS OF IEA Net Imports⁶ -	186	-	190	-	191	-	190	-	-	-

¹ Total Stocks are industry and government-controlled stocks (see breakdown in table below). Stocks are primary national territory stocks on land (excluding utility stocks and including pipeline and 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 Millions of Barrels	Industry	Total	Government ¹ controlled Days of Fwd. Demand ²	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	93	33	60
1Q2019	4402	1553	2849	92	33	60

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

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

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

	2016	2017	2018	1Q18	2Q18	3Q18	4Q18	Dec 18	Jan 19	Feb 19	Year Earlier	
											Feb 18	change
Saudi Light & Extra Light												
Americas	0.69	0.59	0.66	0.54	0.79	0.64	0.66	0.64	0.38	0.33	0.63	-0.30
Europe	0.79	0.69	0.69	0.58	0.70	0.76	0.72	0.79	0.77	0.69	0.62	0.07
Asia Oceania	1.40	1.56	1.45	1.50	1.42	1.36	1.50	1.51	1.65	0.91	1.67	-0.75
Saudi Medium												
Americas	0.44	0.33	0.30	0.20	0.28	0.37	0.33	0.34	-	-	0.19	-
Europe	0.01	0.01	0.01	0.02	0.01	0.01	0.01	0.04	-	-	0.02	-
Asia Oceania	0.41	0.37	0.41	0.40	0.42	0.41	0.39	0.34	0.28	0.07	0.40	-0.34
Canada Heavy												
Americas	2.04	2.23	2.41	2.33	2.48	2.39	2.43	2.43	2.31	2.07	2.23	-0.16
Europe	0.01	0.02	0.04	0.03	0.04	0.05	0.02	0.04	0.03	0.04	0.02	0.02
Asia Oceania	-	-	0.00	0.00	0.00	-	0.01	0.01	-	-	0.01	-
Iraqi Basrah Light²												
Americas	0.42	0.63	0.50	0.66	0.63	0.41	0.32	0.19	0.52	0.38	0.80	-0.42
Europe	0.81	0.76	0.76	0.65	0.61	0.87	0.92	0.83	0.87	0.85	0.57	0.28
Asia Oceania	0.46	0.40	0.43	0.42	0.48	0.42	0.42	0.42	0.50	-	0.29	-
Kuwait Blend												
Americas	0.14	0.11	0.02	0.03	0.04	-	-	-	-	-	-	-
Europe	0.19	0.20	0.13	0.13	0.08	0.17	0.13	0.14	0.09	0.02	0.13	-0.12
Asia Oceania	0.66	0.68	0.66	0.68	0.66	0.67	0.62	0.60	0.66	0.24	0.76	-0.52
Iranian Light												
Americas	-	-	-	-	-	-	-	-	-	-	-	-
Europe	0.21	0.27	0.16	0.24	0.26	0.13	0.03	0.02	0.03	-	0.32	-
Asia Oceania	0.01	0.01	0.01	0.02	0.01	0.01	-	-	-	-	0.01	-
Iranian Heavy³												
Americas	-	-	-	-	-	-	-	-	-	-	-	-
Europe	0.21	0.52	0.35	0.42	0.44	0.41	0.11	0.00	0.06	0.09	0.39	-0.30
Asia Oceania	0.52	0.57	0.28	0.49	0.36	0.24	0.02	-	0.06	0.14	0.50	-0.36
BFOE												
Americas	0.02	0.02	0.00	-	0.00	0.00	-	-	-	-	-	-
Europe	0.44	0.45	0.35	0.41	0.25	0.43	0.31	0.35	0.57	0.29	0.37	-0.08
Asia Oceania	0.05	0.10	0.09	0.09	0.09	0.07	0.10	0.10	-	-	0.14	-
Kazakhstan												
Americas	0.01	-	-	-	-	-	-	-	-	-	-	-
Europe	0.70	0.75	0.75	0.84	0.73	0.70	0.71	0.78	0.77	0.92	0.67	0.25
Asia Oceania	0.03	0.10	0.19	0.13	0.19	0.21	0.22	0.25	0.16	-	0.04	-
Venezuelan 22 API and heavier												
Americas	0.63	0.48	0.44	0.40	0.47	0.45	0.45	0.44	0.48	0.10	0.32	-0.23
Europe	0.05	0.04	0.03	0.02	0.02	0.03	0.06	0.06	0.13	0.08	0.02	0.06
Asia Oceania	-	-	-	-	-	-	-	-	-	-	-	-
Mexican Maya												
Americas	0.53	0.58	0.63	0.64	0.63	0.75	0.51	0.37	0.47	0.59	0.44	0.14
Europe	0.17	0.20	0.21	0.27	0.22	0.17	0.17	0.18	0.18	0.25	0.34	-0.09
Asia Oceania	0.05	0.07	0.08	0.06	0.10	0.08	0.09	0.06	0.13	-	0.11	-
Russian Urals												
Americas	-	0.01	0.01	-	-	-	0.02	0.05	0.09	0.03	-	-
Europe	1.72	1.64	1.39	1.38	1.46	1.37	1.37	1.39	1.32	1.19	1.43	-0.24
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	0.14	0.11	0.22	0.08	0.09	0.12	0.20	0.21	-0.01
Pacific	0.01	0.01	0.01	-	0.00	-	0.03	-	-	-	-	-
Nigerian Light⁴												
Americas	0.07	0.04	0.01	0.03	0.01	-	-	-	-	-	-	-
Europe	0.39	0.39	0.53	0.48	0.49	0.54	0.62	0.60	0.44	0.51	0.51	0.00
Asia Oceania	0.01	0.02	0.02	0.02	0.03	0.01	0.02	0.05	0.01	0.04	-	-
Libya Light and Medium												
Americas	-	0.02	-	-	-	-	-	-	-	-	-	-
Europe	0.20	0.54	0.62	0.65	0.64	0.55	0.65	0.60	0.62	0.45	0.67	-0.22
Asia Oceania	0.02	0.03	0.02	0.02	0.01	0.02	0.02	0.03	0.05	0.03	0.04	0.00

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

² Iraqi Total minus Kirkuk.

³ Iranian Total minus Iranian Light.

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

Table 7
REGIONAL OECD IMPORTS^{1,2}
(thousand barrels per day)

	2016	2017	2018	1Q18	2Q18	3Q18	4Q18	Dec 18	Jan 19	Feb 19	Year Earlier		
											Feb 18	% change	
Crude Oil													
Americas	4542	4361	3759	3827	4085	3905	3223	3081	3391	2592	3634	-29%	
Europe	9253	9712	9536	9498	9465	9728	9452	9659	9869	9939	9756	2%	
Asia Oceania	6659	6843	6698	6849	6571	6513	6861	6631	6718	7507	7096	6%	
Total OECD	20455	20916	19993	20173	20121	20146	19535	19371	19978	20038	20485	-2%	
LPG													
Americas	20	20	22	33	14	17	24	35	52	30	38	-21%	
Europe	445	437	473	492	468	429	502	541	449	509	513	-1%	
Asia Oceania	567	549	555	595	567	503	555	554	678	674	675	0%	
Total OECD	1032	1006	1050	1120	1049	949	1082	1130	1179	1214	1226	-1%	
Naphtha													
Americas	10	19	8	10	5	6	11	7	4	5	21	-78%	
Europe	348	369	371	411	371	346	358	225	481	414	296	40%	
Asia Oceania	908	981	1021	1031	958	1007	1088	1110	959	921	1102	-16%	
Total OECD	1266	1369	1401	1453	1333	1360	1458	1341	1444	1339	1419	-6%	
Gasoline ³													
Americas	735	727	773	559	1060	968	504	533	605	523	457	14%	
Europe	100	162	102	153	67	85	104	99	137	72	228	-68%	
Asia Oceania	87	102	108	123	123	92	95	75	126	65	159	-59%	
Total OECD	922	990	983	836	1250	1144	703	707	867	660	844	-22%	
Jet & Kerosene													
Americas	169	171	140	131	136	178	115	107	96	162	125	29%	
Europe	504	506	516	435	539	611	479	328	463	439	363	21%	
Asia Oceania	73	77	85	112	60	53	118	137	53	107	159	-33%	
Total OECD	745	754	742	678	734	842	712	572	612	708	648	9%	
Gasoil/Diesel													
Americas	67	77	124	179	63	130	125	127	273	286	226	26%	
Europe	1340	1381	1377	1401	1382	1453	1271	1345	1453	1566	1554	1%	
Asia Oceania	196	194	254	214	256	232	313	283	246	173	188	-8%	
Total OECD	1602	1653	1755	1794	1701	1815	1710	1755	1971	2024	1969	3%	
Heavy Fuel Oil													
Americas	149	131	161	158	161	195	130	118	157	172	134	29%	
Europe	477	240	231	239	227	249	211	224	144	236	224	5%	
Asia Oceania	153	146	162	192	156	151	149	168	127	122	193	-37%	
Total OECD	779	517	554	589	544	595	490	509	429	531	552	-4%	
Other Products													
Americas	652	717	679	722	658	699	637	564	643	383	669	-43%	
Europe	774	1009	1034	1057	975	1126	980	1023	1087	1003	1123	-11%	
Asia Oceania	348	255	265	277	250	255	279	280	266	254	247	3%	
Total OECD	1774	1981	1978	2056	1882	2080	1896	1866	1996	1640	2039	-20%	
Total Products													
Americas	1802	1862	1908	1793	2095	2194	1547	1491	1830	1560	1670	-7%	
Europe	3988	4104	4105	4189	4028	4299	3905	3784	4214	4239	4301	-1%	
Asia Oceania	2331	2304	2450	2543	2371	2292	2597	2606	2455	2317	2724	-15%	
Total OECD	8121	8270	8463	8525	8494	8786	8050	7881	8499	8116	8696	-7%	
Total Oil													
Americas	6344	6223	5666	5620	6180	6100	4770	4572	5221	4152	5304	-22%	
Europe	13241	13815	13641	13686	13493	14027	13357	13442	14084	14178	14057	1%	
Asia Oceania	8991	9147	9148	9392	8942	8805	9458	9237	9172	9824	9820	0%	
Total OECD	28575	29186	28456	28698	28615	28932	27585	27252	28477	28154	29181	-4%	

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

² Excludes intra-regional trade.

³ Includes additives.

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