
International Energy Agency
Secure Sustainable Together

**14 November 2018**

## HIGHLIGHTS

- **The outlook for global oil demand growth is largely unchanged at 1.3 mb/d in 2018 and 1.4 mb/d in 2019,** as a weaker economy is largely offset by lower oil prices. OECD demand is expected to increase by 355 kb/d in 2018, slowing to 285 kb/d in 2019.

- **Oil demand is slowing in several non-OECD countries**, as the impact of higher year-on-year prices is amplified by currency devaluations and slowing economic activity. Our non-OECD demand forecast has been revised down by 165 kb/d for 2019.

- **Global oil supplies are growing rapidly,** as record output from Saudi Arabia, Russia and the US more than offsets declines from Iran and Venezuela. October output was up 2.6 mb/d on a year ago. Non-OPEC output will grow by 2.4 mb/d this year and 1.9 mb/d in 2019.

- **OPEC crude output rose 200 kb/d in October to 32.99 mb/d, up 240 kb/d on a year ago.** Losses of 0.4 mb/d from Iran and 0.6 mb/d from Venezuela were offset by increases from others. The call on OPEC crude falls to 31.3 mb/d in 2019, 1.7 mb/d below current output.

- **After a refine products stocks build of 0.7 mb/d in 3Q18, October refining margins plunged to the lowest levels since 2014.** Global refinery throughput is also likely to exceed refined product demand both in 4Q18 and into 2019.

- **OECD commercial stocks rose counter-seasonally by 12.1 mb in September to 2 875 mb.** In 3Q18, stocks increased by 58.1 mb (630 kb/d), the largest gain since 2015. OECD holdings are likely to exceed the 5-year average when October data is finalised.

- **ICE Brent prices hit a four-year high of over $86/bbl at the beginning of October but have since fallen back to below $70/bbl.** Brent and WTI futures curves have flipped to contango. Except for gasoline and naphtha, product prices did not match the drop in crude prices.

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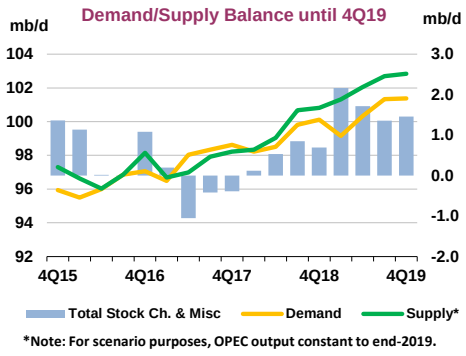
# Heeding the warnings

In last month's *Report*, we noted that since the middle of the year oil supply had increased sharply, with gains in the Middle East, Russia and the United States more than compensating for falls in production in Iran, Venezuela and elsewhere. New data show that the pace has accelerated, and this higher output, in combination with Iranian sanctions waivers issued by the US and steady demand growth, implies a stock build in 4Q18 of 0.7 mb/d. Already, OECD stocks have increased for four months in a row, with products back above the five-year average. In 1H19, based on our outlook for non-OPEC production and global demand, and assuming flat OPEC production (i.e. losses from Iran/Venezuela are offset by others), the *implied* stock build is currently 2 mb/d.

In the August edition of this *Report* we described the replacement of Iranian and Venezuelan barrels as "challenging", and that there was a danger of prices rising too high too fast. Producers have heeded the warnings and more than met the challenge and today, the Big Three, Russia, Saudi Arabia and the United States, all see output at record levels. Total non-OPEC production in August, the latest month for which we have consolidated data, was 3.5 mb/d higher than a year ago, with the United States contributing an extraordinary 3.0 mb/d. Russia's crude output has hit a new record of 11.4 mb/d, with companies suggesting that they could produce even more.

In early October, the price of Brent crude oil reached a four-year high above $86/bbl, reflecting the legitimate fears of market tightness. In our view, this was a dangerous "red zone" and it justified calls for producers to raise output. Today, the price has fallen to a more reasonable level close to $70/bbl, well below where it was in May before the US announced its change of policy on Iran. Lower prices are clearly a benefit to consumers, especially hard-pressed ones in developing countries that are suffering from the additional handicap of weak national currencies. For now, forecasts of oil demand growth remain solid with an increase of 1.3 mb/d this year and an increase to 1.4 mb/d in 2019, even though the macro-economic outlook is uncertain.




We should also recognise the interests of the producers. For many countries, even though their output might have increased, prices *falling* too far are unwelcome. Ministers from the Vienna Agreement countries will meet in early December, but we have already seen suggestions from leading producers that supply could be cut soon if customers, seeing ample supply, rising stocks, and slumping refining margins, request lower volumes.

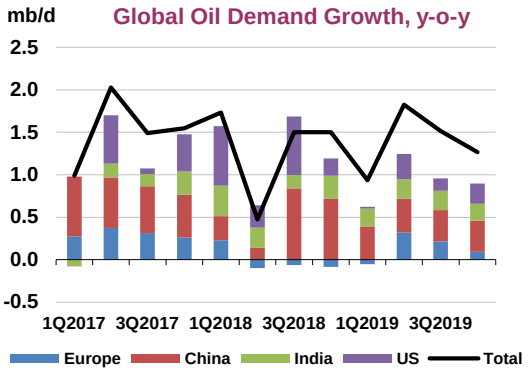
Although the oil market appears to be more relaxed than it was a few weeks ago, and there might be a sense of "mission accomplished" that producers have met the challenge of replacing lost barrels, such is the volatility of events that rising stocks should be welcomed as a form of insurance, rather than a threat. The United States remains committed to reducing Iranian oil exports to zero from the 1.8 mb/d seen today; there are concerns as to the stability of production in Libya, Nigeria and Venezuela; and the tanker collision last week in Norwegian waters, although modest in impact, is another reminder of the vulnerability of the system to accidents.

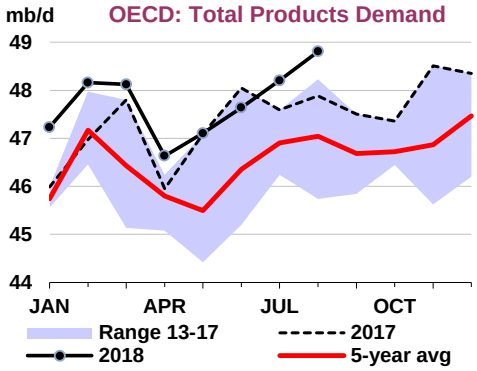
The response to the call by the IEA and others to increase production is a reminder that the oil industry works best when it works together. Regular contacts between key players are essential in creating understanding, and even though oil diplomacy has succeeded so far this year, it needs to be maintained to ensure market stability.

# DEMAND

## Summary

The outlook for global oil demand growth is largely unchanged since last month's *Report*, at 1.3 mb/d in 2018 and 1.4 mb/d in 2019 as a deteriorating outlook for the global economy is largely offset by the fall in Brent crude oil prices from $86/bbl early in October to around $70/bbl at the time of publication. After posting a lacklustre 0.5 mb/d of growth in 2Q18, global oil demand expanded by 1.5 mb/d in 3Q18. Both European and OECD Asian demand continues to be relatively weak, reflecting the fact that prices remain significantly higher than a year ago and a slowdown in economic activity. US demand, by contrast, is very robust, albeit slowing towards the end of 3Q18, according to provisional data. Total OECD demand is expected to increase by 355 kb/d in 2018, with growth slowing to 285 kb/d in 2019. Recent data also point to a slowdown in non-OECD demand. While China is still showing robust growth, some other non-OECD countries have been impacted by higher oil prices, amplified by depreciating currencies, and deteriorating economic activity. India, Brazil, and Argentina, are notable examples. Total non-OECD demand is projected to increase by 950 kb/d in 2018, accelerating to 1.1 mb/d in 2019.




OECD Americas oil demand is projected to increase by 445 kb/d in 2018, supported by harsh weather conditions in 1Q18, as well as booming industrial activity and the start-up of petrochemical projects in the US. The strong year-on-year (y-o-y) increase in oil prices seen in 2018 is, however, affecting gasoline demand, which is forecast to contract by 30 kb/d in 2018. More ethane crackers coming on stream and recently lower oil prices should continue to support OECD Americas growth of 200 kb/d in 2019.

**Global Oil Demand (2017-2019)**

(million barrels per day)*

| | 1Q17 | 2Q17 | 3Q17 | 4Q17 | 2017 | 1Q18 | 2Q18 | 3Q18 | 4Q18 | 2018 | 1Q19 | 2Q19 | 3Q19 | 4Q19 | 2019 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Africa | 4.4 | 4.3 | 4.2 | 4.3 | 4.3 | 4.3 | 4.3 | 4.2 | 4.3 | 4.3 | 4.4 | 4.4 | 4.3 | 4.4 | 4.4 |
| Americas | 30.9 | 31.6 | 31.7 | 31.8 | 31.5 | 31.6 | 31.7 | 32.3 | 32.0 | 31.9 | 31.6 | 32.1 | 32.5 | 32.3 | 32.1 |
| Asia/Pacific | 34.1 | 34.0 | 33.4 | 34.6 | 34.0 | 34.9 | 34.5 | 34.2 | 35.6 | 34.8 | 35.7 | 35.3 | 35.0 | 36.4 | 35.6 |
| Europe | 14.5 | 15.0 | 15.5 | 15.2 | 15.0 | 14.8 | 14.9 | 15.4 | 15.1 | 15.0 | 14.7 | 15.2 | 15.6 | 15.2 | 15.2 |
| FSU | 4.3 | 4.5 | 4.7 | 4.6 | 4.5 | 4.5 | 4.6 | 5.0 | 4.7 | 4.7 | 4.6 | 4.8 | 5.0 | 4.8 | 4.8 |
| Middle East | 8.2 | 8.7 | 8.9 | 8.2 | 8.5 | 8.1 | 8.5 | 8.8 | 8.4 | 8.4 | 8.1 | 8.6 | 8.9 | 8.3 | 8.5 |
| **World** | **96.5** | **98.0** | **98.3** | **98.6** | **97.9** | **98.2** | **98.5** | **99.8** | **100.1** | **99.2** | **99.2** | **100.3** | **101.4** | **101.4** | **100.6** |
| Annual Chg (%) | 1.0 | 2.1 | 1.5 | 1.6 | 1.6 | 1.8 | 0.5 | 1.5 | 1.5 | 1.3 | 1.0 | 1.9 | 1.5 | 1.3 | 1.4 |
| Annual Chg (mb/d) | 1.0 | 2.0 | 1.5 | 1.5 | 1.5 | 1.7 | 0.5 | 1.50 | 1.50 | 1.3 | 0.9 | 1.8 | 1.5 | 1.3 | 1.4 |
| Changes from last OMR (mb/d) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.1 | 0.1 | 0.0 | 0.0 | 0.2 | 0.1 | 0.1 | -0.2 | 0.1 |

* Including biofuels

OECD Europe's demand is less robust, and, after growth of 230 kb/d y-o-y in 1Q18, there were declines of 100 kb/d in 2Q18 and 65 kb/d in 3Q18. For the year as a whole, demand is set to decline by 5 kb/d on very weak gasoil and naphtha deliveries but a more favourable price environment is expected to support

growth of 145 kb/d in 2019. OECD Asia Oceania oil demand will post small declines in both 2018 and 2019. Overall, total OECD oil demand growth is projected at 360 kb/d in 2018 and 285 kb/d in 2019.

Non-OECD oil consumption should increase by 950 kb/d in 2018, and the pace will accelerate to 1.1 mb/d in 2019. Asia remains the main source of growth, contributing 0.9 mb/d in 2018 and 0.82 mb/d in 2019, with China and India the dominant markets.

**Global Demand by Product**

(thousand barrels per day)

| | Demand | | | Annual Chg (kb/d) | | Annual Chg (%) | |
|---|---|---|---|---|---|---|---|
| | 4Q17 | 1Q18 | 2Q18 | 1Q18 | 2Q18 | 1Q18 | 2Q18 |
| LPG & Ethane | 12,116 | 12,858 | 11,983 | 707 | 313 | 5.8 | 2.7 |
| Naphtha | 6,591 | 6,441 | 6,110 | -128 | -88 | -1.9 | -1.4 |
| Motor Gasoline | 25,780 | 25,397 | 26,021 | 244 | -201 | 1.0 | -0.8 |
| Jet Fuel & Kerosene | 7,648 | 7,755 | 7,670 | 259 | 358 | 3.5 | 4.9 |
| Gas/Diesel Oil | 28,598 | 27,973 | 28,427 | 759 | 178 | 2.8 | 0.6 |
| Residual Fuel Oil | 6,951 | 6,960 | 6,948 | -506 | -165 | -6.8 | -2.3 |
| Other Products | 10,932 | 10,835 | 11,348 | 398 | 80 | 3.8 | 0.7 |
| **Total Products** | **98,616** | **98,218** | **98,507** | **1,732** | **474** | **1.8** | **0.5** |

## Fundamentals

The outlook for the global economy has deteriorated since the last *Report*. At the same time, there has been a sharp decrease in Brent futures prices. These two factors largely cancel each other out, leaving global oil demand projections essentially unchanged.

Following recent forecasts from the OECD and the IMF, the European Commission recently released its autumn 2018 outlook. In their base case, trade growth is expected to decline due to weakening global economic activity and rising trade tensions. Euro area growth is expected to slow from 2.4% in 2017 to 2.1% in 2018 and 1.9% in 2019. In a special section, the Commission looked at the impact of an oil price increase on euro area economic activity. According to the report, a 20% increase in Brent oil prices has a relatively limited impact on the economy, shaving only 0.1 percentage points (pps) off GDP growth in 2019 and increasing inflation by 0.1 pps.

In this *Report*, we incorporated the complete data set from the IMF's October 2018 outlook, in which the Fund revised world economic growth from 3.9% to 3.7% for both 2018 and 2019. While global oil demand growth remained unchanged, in some countries where it is known to be very responsive to economic activity (e.g. China) growth has been revised down.

While slower economic growth in some countries reduces the outlook for oil demand, a significant downward revision to our price assumption is supportive. In this *Report*, the Brent futures price curve used as a modelling input shows prices averaging $73.10/bbl in 2018 and $72.70/bbl in 2019. Compared to last month's *Report*, these prices are $1.70/bbl and $9.75/bbl lower for 2018 and 2019, respectively. In theory, these reductions could add 40 kb/d to demand in 2018 and 235 kb/d in 2019.

We are now in the northern hemisphere winter heating season: in October, temperatures were relatively low in the US and high in Europe. In our forecast, we assume that temperatures in the northern hemisphere are at the 10-year average level.

## OECD

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

**OECD Demand based on Adjusted Preliminary Submissions - September 2018**

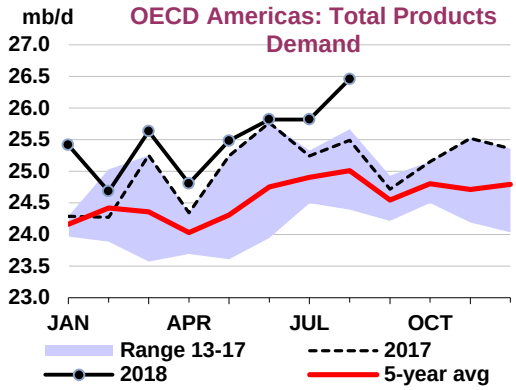
(million barrels per day)

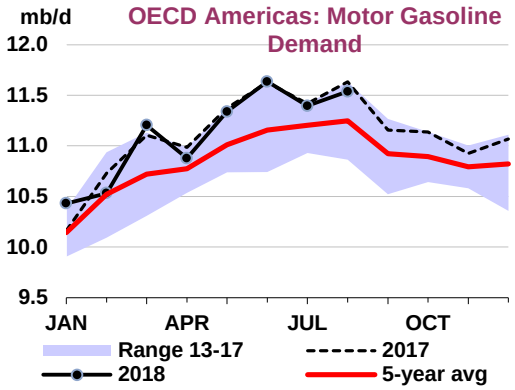
| | Gasoline | | Jet/Kerosene | | Diesel | | Other Gasoil | | RFO | | Other | | Total Products | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | mb/d | % pa | mb/d | % pa | mb/d | % pa | mb/d | % pa | mb/d | % pa | mb/d | % pa | mb/d | % pa |
| **OECD Americas*** | **11.06** | **-0.9** | **2.04** | **4.5** | **4.67** | **1.5** | **0.55** | **5.4** | **0.73** | **14.4** | **6.20** | **6.15** | **25.25** | **2.2** |
| US50 | 9.29 | -0.9 | 1.73 | 5.6 | 3.79 | 0.8 | 0.16 | 0.7 | 0.41 | 36.2 | 4.76 | 8.24 | 20.15 | 2.6 |
| Canada | 0.86 | 1.4 | 0.17 | -4.9 | 0.29 | -1.1 | 0.31 | 10.0 | 0.05 | -25.9 | 0.82 | -1.81 | 2.50 | -0.1 |
| Mexico | 0.77 | -3.2 | 0.08 | 3.7 | 0.38 | 13.2 | 0.05 | -3.8 | 0.18 | 0.1 | 0.50 | 2.78 | 1.97 | 1.8 |
| **OECD Europe** | **1.92** | **-1.4** | **1.69** | **1.6** | **5.14** | **-2.0** | **1.38** | **-9.4** | **0.90** | **-0.7** | **3.51** | **-4.93** | **14.53** | **-2.9** |
| Germany | 0.43 | -3.0 | 0.25 | 7.0 | 0.74 | -6.0 | 0.34 | -10.0 | 0.08 | 10.3 | 0.50 | -13.99 | 2.32 | -6.3 |
| United Kingdom | 0.29 | -3.4 | 0.35 | 0.8 | 0.52 | -2.6 | 0.15 | -7.3 | 0.03 | -7.3 | 0.29 | 1.69 | 1.62 | -1.8 |
| France | 0.18 | -7.3 | 0.18 | 2.5 | 0.66 | -14.2 | 0.26 | -13.1 | 0.05 | -2.1 | 0.31 | -10.24 | 1.65 | -10.6 |
| Italy | 0.15 | -1.2 | 0.14 | 5.3 | 0.47 | 0.5 | 0.08 | -0.7 | 0.08 | -3.5 | 0.34 | -5.39 | 1.27 | -1.2 |
| Spain | 0.12 | -0.3 | 0.16 | -0.3 | 0.48 | -0.2 | 0.14 | -3.2 | 0.15 | -2.6 | 0.27 | 7.20 | 1.32 | 0.6 |
| **OECD Asia & Oceania** | **1.53** | **-1.8** | **0.71** | **-5.9** | **1.43** | **0.0** | **0.46** | **-5.3** | **0.50** | **-4.5** | **2.89** | **-5.56** | **7.53** | **-3.8** |
| Japan | 0.87 | -2.7 | 0.31 | -17.1 | 0.44 | 0.3 | 0.31 | -4.0 | 0.26 | 0.9 | 1.27 | -5.14 | 3.46 | -4.6 |
| Korea | 0.23 | -0.6 | 0.19 | 7.2 | 0.38 | -8.5 | 0.09 | -7.2 | 0.20 | -10.5 | 1.36 | -6.94 | 2.45 | -6.0 |
| Australia | 0.31 | -2.4 | 0.16 | 0.2 | 0.54 | 6.3 | 0.00 | 0.0 | 0.01 | 7.5 | 0.17 | -1.75 | 1.20 | 1.9 |
| **OECD Total** | **14.51** | **-1.1** | **4.44** | **1.6** | **11.24** | **-0.3** | **2.39** | **-5.6** | **2.13** | **3.0** | **12.60** | **0.06** | **47.31** | **-0.4** |

* Including US territories

Total OECD demand in September was 0.4% below year-ago levels, with marked differences between the regions. The Americas saw growth of 2.2% whereas European demand was down by 2.9% with the four largest economies showing declines. Asia Oceania saw demand fall by 3.8 %.

## *Americas*



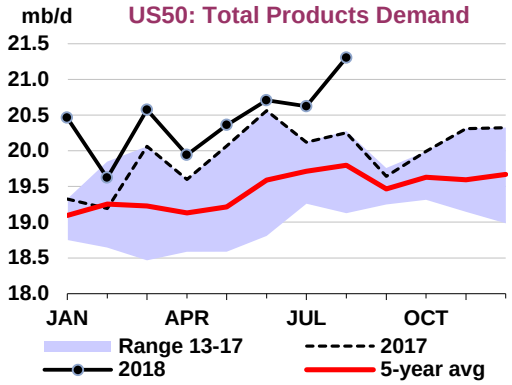



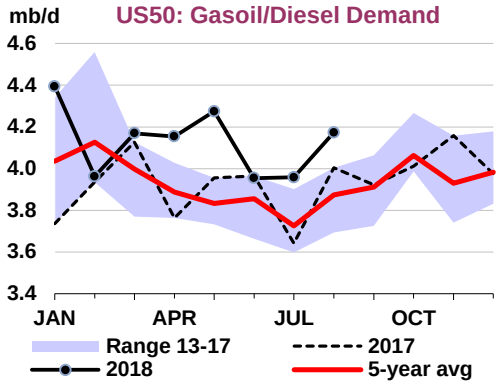

North American oil demand picked up pace in 3Q18, accelerating to 695 kb/d, of which LPG accounted for 350 kb/d and gasoil 210 kb/d. Gasoline demand, by contrast, is estimated to have contracted by 70 kb/d, being the product most immediately responsive to higher prices.

**US** oil demand has been little affected by this year's hurricane season. We saw very strong growth of 1 055 kb/d y-o-y in August after growth of 505 kb/d in July. LPG/ethane demand growth reached 550 kb/d y-o-y due to the start-up of new petrochemical projects and the comparison with a weak, hurricane-impacted August 2017.

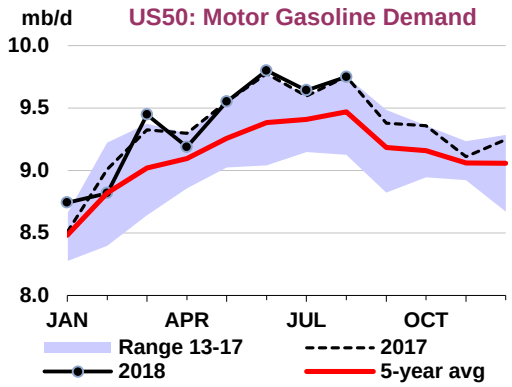
Gasoil demand rose 170 kb/d y-o-y in August, after a small contraction in July. Growth appears to have slowed to 30 kb/d in September, according to weekly data and then rebounded to 195 kb/d in October. The trucking industry, representing 70% of domestic freight tonnage in the US, has been growing strongly since the start of 2017, supported by the growth in e-commerce and booming industrial production. It is also supported by shale oil production activities, with trucks used in the transport of equipment, including the sand and water used in the fracking practice. In addition, due to the lack of

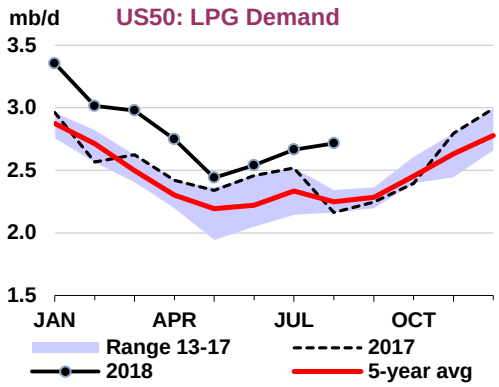
takeaway pipeline capacities, trucks are used to move crude oil out of the Permian Basin. New pipelines coming on stream in 2H19 should reduce the use of oil-carrying trucks.




Gasoline demand fell by 5 kb/d y-o-y in August. US vehicle miles travelled increased, however, by 1.2% y-o-y in August, according to the Federal Highway Administration. Higher gasoline prices may have encouraged more energy-efficient behaviour. Preliminary weekly data point to a drop of 85 kb/d y-o-y in gasoline demand in September, and a further drop of 165 kb/d in October, when gasoline prices were the highest for the time of year since 2014.



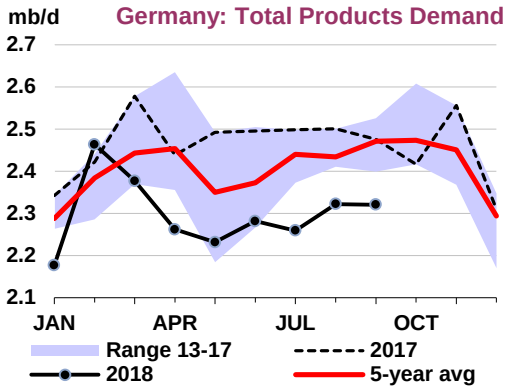

Jet fuel demand rose by 95 kb/d y-o-y in August, after growth of 40 kb/d in July. Domestic passenger air traffic (revenue passenger kilometres or RPK) rose by 5.2% in August and 6.2% in September. Weekly data point to continued strong growth in kerosene deliveries in September of 90 kb/d but they show a decline in October of 65 kb/d.

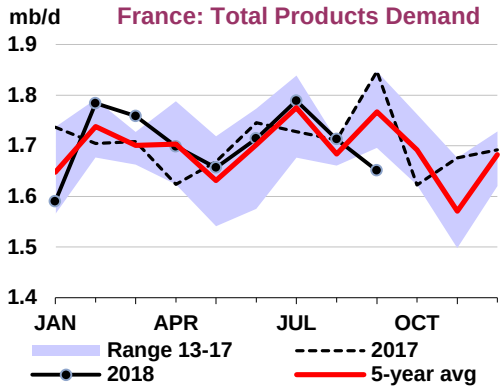
**Canada's** oil consumption declined by 105 kb/d y-o-y in August, on poor demand for LPG, naphtha and gasoline (down by 40 kb/d). **Mexico's** oil demand rose by 10 kb/d y-o-y in August and 35 kb/d in September, although gasoline remains subdued, declining by 50 kb/d and 25 kb/d in August and September, respectively.

Total **North American** oil demand, after rising strongly by 445 kb/d in 2018, will see a marked slowdown in 2019, with growth easing to 195 kb/d. Nearly all of the increase next year will come from ethane crackers coming on stream in the US, contributing 150 kb/d to the growth.

## *Europe*

European oil demand rose by 90 kb/d y-o-y in August. For September, preliminary data point to a decline of 440 kb/d, including a drop in gasoil demand of 250 kb/d.




**German** oil demand declined by 180 kb/d in August and 155 kb/d in September. Gasoil and naphtha demand remained particularly low. Concerns about pollution and falling resale values have penalised diesel car sales. Passenger car sales fell by 30% y-o-y in September and 7.4% in October, in reaction to new European Union (EU) certification requirements. Gasoline-fuelled cars accounted for 62% of passenger car sales in October and diesel cars 32%.

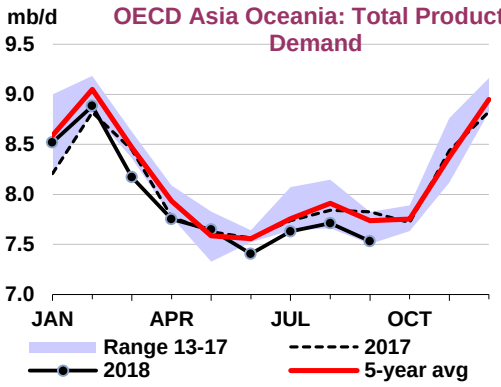
Passenger car sales in other European countries were also affected by the new EU regulations: in the UK, for example, sales dropped by 21% in September.

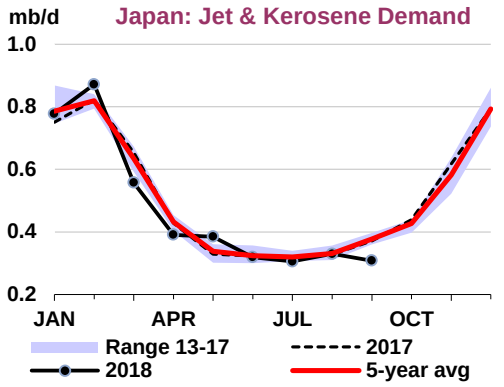
Oil demand in **France** remained unchanged y-o-y in August but preliminary data suggest that demand declined by 195 kb/d in September. In **Italy**, oil demand rose by 30 kb/d in August, while preliminary data suggested a drop of 15 kb/d in September.

Overall, we expect European oil demand to fall by a negligible 5 kb/d in 2018, but there will be a rebound in 2019 to 145 kb/d.

## *Asia Oceania*

OECD Asia Oceania demand declined by 130 kb/d y-o-y in August. Preliminary data point to a drop of 295 kb/d in September.




**Japanese** oil demand fell by 95 kb/d y-o-y in August, on lower deliveries of almost all products. The decline is likely to have accelerated in September, to 165 kb/d, according to preliminary data. The Jebi typhoon affected air traffic in September with RPK falling by 5%. Japanese oil demand is projected to fall by 110 kb/d in 2018 and 62 kb/d in 2019.

**South Korean** demand dropped by 65 kb in August and 155 kb/d in September. The South Korean economy is very dependent on exports and has started to suffer from trade tensions. South Korean

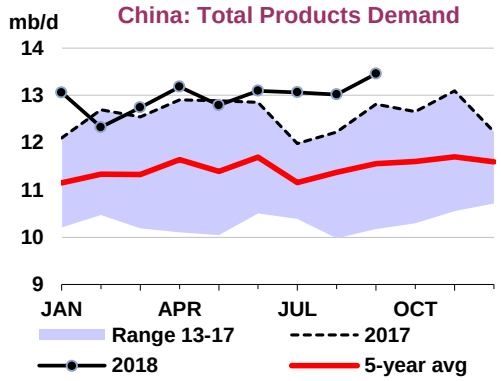
exports fell 8.2% y-o-y in September, the largest drop in more than two years. The government recently announced measures to support growth, as well as fuel tax cuts (for six months) to spur consumption. In **Australia**, oil demand rose by 30 kb/d y-o-y in August on strong diesel deliveries

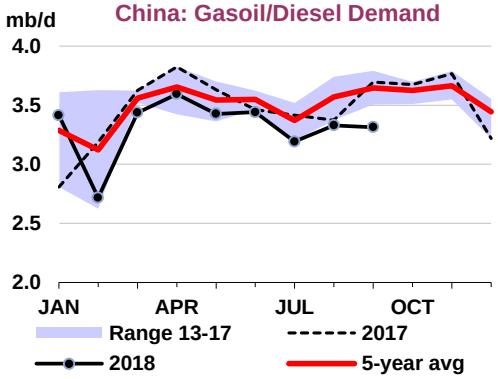
OECD Asia Oceania oil demand is expected to contract by 80 kb/d in 2018 and by 55 kb/d in 2019.

## Non-OECD

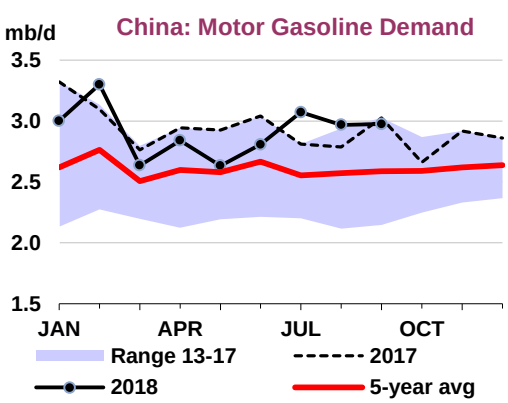
### *China*

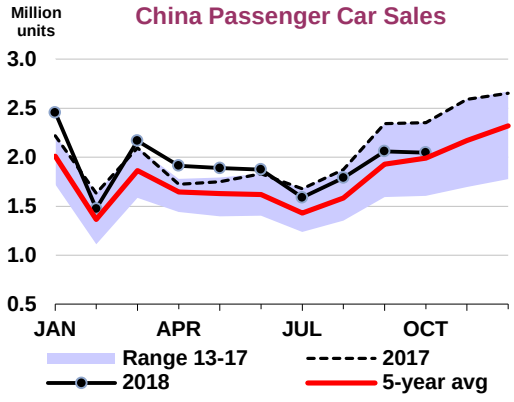
**China's** apparent oil demand is estimated to have increased by 640 kb/d y-o-y in September, although there were mixed fortunes for the various products. Diesel demand declined by 380 kb/d in September and for 3Q18 as a whole it is estimated to have fallen by 215 kb/d. Kerosene demand has been supported by a buoyant aviation sector: in September demand increased by 150 kb/d and in 3Q18 growth was 145 kb/d. China's domestic revenue passenger kilometres (RPK) increased by 9.3% in September, although growth was even stronger in August at 14.7%.




Gasoline demand declined by 50 kb/d y-o-y in September although 3Q18 growth is estimated to have been 130 kb/d above last year's level. Car sales fell by 12% y-o-y in September and 13% in October, the fourth consecutive month of y-o-y decline. October's fall was the steepest drop in more than six years. The end of a government tax rebate policy introduced in 2015, a growing second hand car market, weakening consumer confidence and new credit restrictions are key factors.




We expect total oil demand growth in China to be 495 kb/d in 2018, followed by a slower rate in 2019 of 380 kb/d.

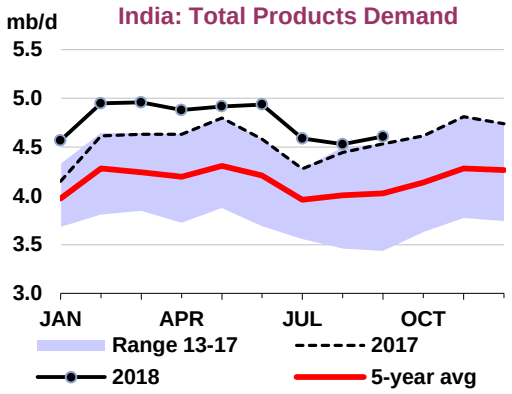
**China: Demand by Product**

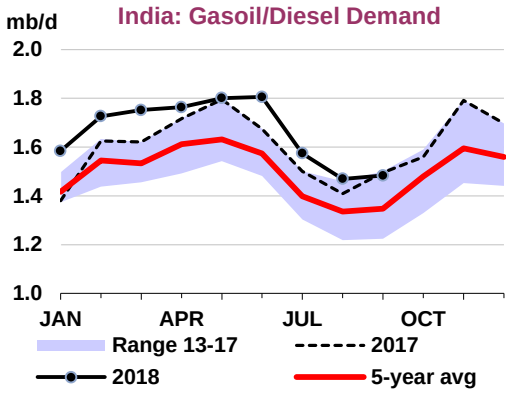
(thousand barrels per day)

| | Demand | | | Annual Chg (kb/d) | | Annual Chg (%) | |
|---|---|---|---|---|---|---|---|
| | 2017 | 2018 | 2019 | 2018 | 2019 | 2018 | 2019 |
| LPG & Ethane | 1,523 | 1,653 | 1,753 | 130 | 100 | 8.5 | 6.1 |
| Naphtha | 1,171 | 1,210 | 1,285 | 39 | 75 | 3.3 | 6.2 |
| Motor Gasoline | 2,927 | 2,923 | 2,979 | -4 | 56 | -0.1 | 1.9 |
| Jet Fuel & Kerosene | 710 | 800 | 847 | 90 | 48 | 12.7 | 6.0 |
| Gas/Diesel Oil | 3,473 | 3,397 | 3,419 | -76 | 22 | -2.2 | 0.6 |
| Residual Fuel Oil | 437 | 427 | 434 | -10 | 8 | -2.3 | 1.8 |
| Other Products | 2,336 | 2,664 | 2,738 | 328 | 74 | 14.0 | 2.8 |
| **Total Products** | **12,576** | **13,073** | **13,455** | **497** | **382** | **4.0** | **2.9** |

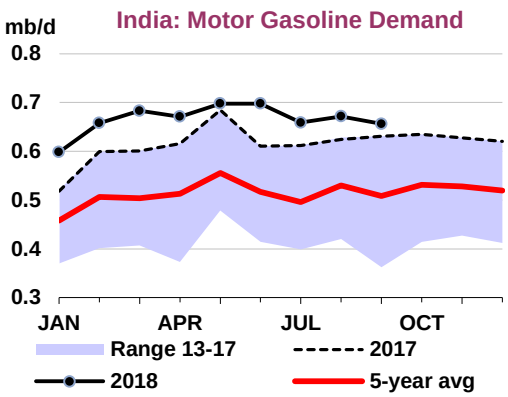
## *India*

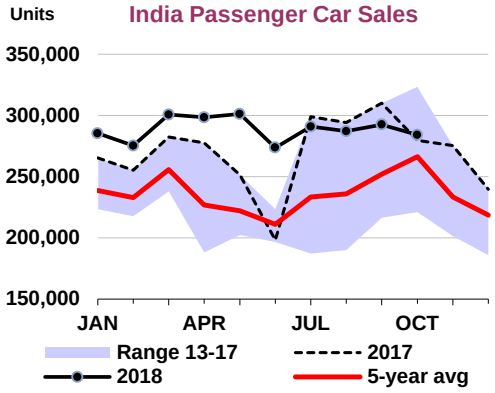
Indian oil demand rose by only 155 kb/d y-o-y in 3Q18 following growth of 300 kb/d in 1H18. Gasoil deliveries declined by 10 kb/d in September and gasoline demand growth was only 25 kb/d. For 3Q18 as a whole, total demand growth is estimated to be 155 kb/d. LPG demand grew by 50 kb/d in September, as government policies continue to support the replacement of kerosene in the residential sector. Rising demand for jet fuel, boosted by the booming aviation sector, has offset the fall in kerosene use. India's domestic RPK grew by 19.8% in September after 18.3% in August.




Oil demand growth has more than doubled in 2018 to 255 kb/d, although we expect a modest slowdown in 2019 to 215 kb/d.



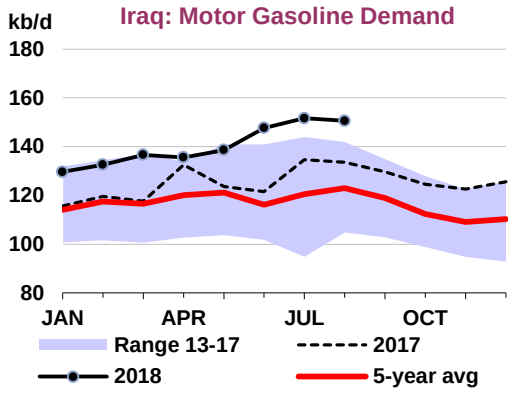
**India: Demand by Product**

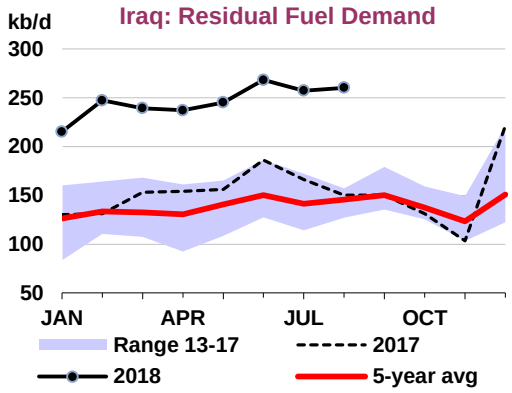
(thousand barrels per day)

| | Demand | | | Annual Chg (kb/d) | | Annual Chg (%) | |
|---|---|---|---|---|---|---|---|
| | 2017 | 2018 | 2019 | 2018 | 2019 | 2018 | 2019 |
| LPG & Ethane | 740 | 800 | 839 | 60 | 39 | 8.1 | 4.8 |
| Naphtha | 283 | 308 | 318 | 24 | 10 | 8.6 | 3.3 |
| Motor Gasoline | 615 | 664 | 697 | 49 | 33 | 8.0 | 4.9 |
| Jet Fuel & Kerosene | 242 | 249 | 265 | 7 | 16 | 3.0 | 6.6 |
| Gas/Diesel Oil | 1,605 | 1,693 | 1,751 | 88 | 59 | 5.5 | 3.5 |
| Residual Fuel Oil | 145 | 145 | 150 | 0 | 5 | 0.0 | 3.5 |
| Other Products | 938 | 967 | 1,021 | 28 | 55 | 3.0 | 5.7 |
| **Total Products** | **4,568** | **4,825** | **5,042** | **257** | **217** | **5.6** | **4.5** |

## *Other Non-OECD*

**Iraq**'s oil demand is rising strongly, led by fuel oil, gasoil and gasoline. Crude oil direct use is the exception, falling sharply y-o-y, as it is largely being replaced by fuel oil and natural gas imported from Iran. Fuel oil demand rose by 110 kb/d y-o-y in August while the direct use of oil fell to almost zero.



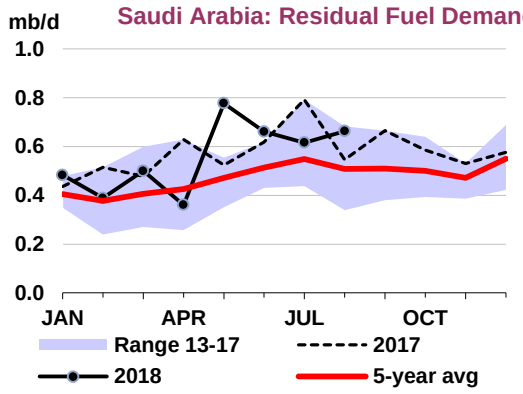



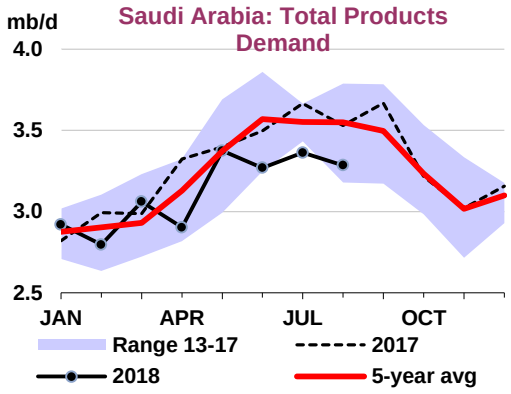

**Non-OECD: Demand by Region**

(thousand barrels per day)

| | Demand | | | Annual Chg (kb/d) | | Annual Chg (%) | |
|---|---|---|---|---|---|---|---|
| | 4Q17 | 1Q18 | 2Q18 | 1Q18 | 2Q18 | 1Q18 | 2Q18 |
| Africa | 4,262 | 4,331 | 4,289 | -27 | -4 | -0.6 | -0.1 |
| Asia | 26,256 | 26,408 | 26,912 | 789 | 593 | 3.1 | 2.3 |
| FSU | 4,598 | 4,481 | 4,632 | 185 | 121 | 4.3 | 2.7 |
| Latin America | 6,449 | 6,331 | 6,355 | -8 | -104 | -0.1 | -1.6 |
| Middle East | 8,229 | 8,110 | 8,452 | -134 | -222 | -1.6 | -2.6 |
| Non-OECD Europe | 757 | 734 | 744 | 18 | -7 | 2.5 | -0.9 |
| **Total Products** | **50,552** | **50,395** | **51,386** | **824** | **377** | **1.7** | **0.7** |

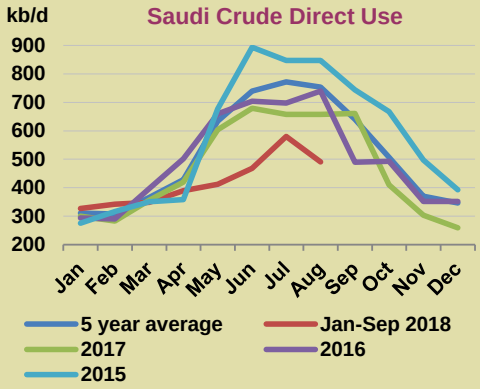
**Saudi Arabian** oil demand continues to be very weak, declining by 245 kb/d y-o-y in August, with sharp drops in gasoil, gasoline and crude oil demand. Gasoil demand declined by 45 kb/d reflecting a slowing economy and a reduction in its use in power generation. Crude oil direct use was reported at 490 kb/d, a 170 kb/d y-o-y reduction.




## *Large reduction in Saudi Arabia's direct use of crude oil in power generation*

The direct use of crude oil in Saudi Arabia has fallen sharply in recent months. It dropped by more than 30% y-o-y in May and June, 12% in July and 25% in August. The commissioning of new power plants in 2017 and 2018 is a major factor. Under the June 2016 National Transformation Programme (NTP), Saudi Arabia planned to step up investment in the utility sector for the next five years, committing to ramping up natural gas production and to broaden power generation capacities.

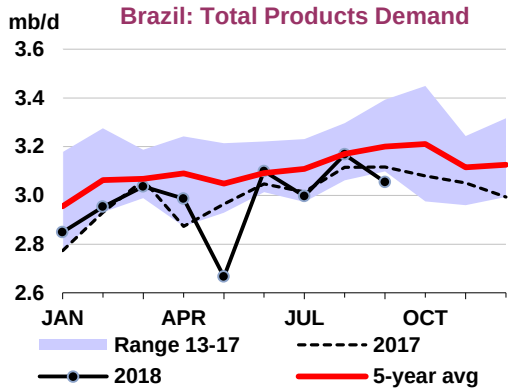


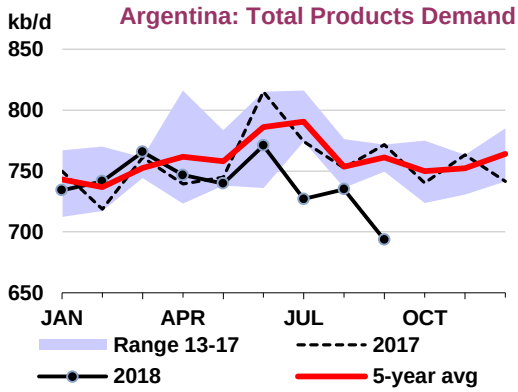

The current capacity of power plants in Saudi Arabia is approximately 90 GW. Two large power plants started operation recently: Jedda South, a 2.8 GW fuel oil-fired plant operated by Saudi Electricity Company; and Waad Al-Shamal, a 1.39 GW gas-fired plant (with small solar operations), also operated by Saudi Electricity Company. The trend will continue as another 15GW of capacity is currently under construction, including four gas-fired plants: Rabigh-2 (operated by SEC IPP, 2.10 GW), Fadhili cogeneration (operated by SEC and Saudi Aramco, 1.52 GW), PP13 and PP14 (operated by SEC, 1.65 GW respectively). These four projects account for 47% of the total capacity under construction.

Fuel switching may also be facilitated by lower than expected electricity demand growth. Since the sharp fall in oil prices in 2014, and the government policy of "Saudisation", a large number of foreign workers have left the country, with 667,000 people leaving since the beginning of 2017. In addition, price reforms may have started to reduce demand. Electricity tariffs were reformed several times in the last few years. In late 2017, tariffs for residential consumption levels below 6,000 kWh/month increased by 260%. Higher fuel oil and natural gas capacity, together with slower demand growth, are likely to continue to reduce direct use of crude oil in Saudi Arabia in the short and medium term.

We expect Saudi oil demand to decline by 105 kb/d in 2018, after a drop of 25 kb/d in 2017. With the boost from government spending, demand is likely to start growing again in 2019, by 40 kb/d.

**Brazilian** oil demand declined by 60 kb/d y-o-y in September, with gasoil falling by 15 kb/d and gasoline falling by 25 kb/d. Overall, Brazilian demand is projected to increase tepidly, by only 10 kb/d in 2018 and an even smaller 5 kb/d in 2019.




**Argentina's** oil demand dropped sharply in September, reflecting the brutal slowdown in economic activity and the impact of a major currency depreciation. Overall oil demand was 80 kb/d below last year. Gasoil and gasoline demand were particularly impacted.

**Non-OECD: Demand by Product**

(thousand barrels per day)

| | Demand | | | Annual Chg (kb/d) | | Annual Chg (%) | |
|---|---|---|---|---|---|---|---|
| | 4Q17 | 1Q18 | 2Q18 | 1Q18 | 2Q18 | 1Q18 | 2Q18 |
| LPG & Ethane | 6,722 | 6,808 | 6,865 | 260 | 175 | 4.0 | 2.6 |
| Naphtha | 2,921 | 2,962 | 2,895 | 68 | 83 | 2.4 | 2.9 |
| Motor Gasoline | 11,318 | 11,342 | 11,240 | 95 | -178 | 0.8 | -1.6 |
| Jet Fuel & Kerosene | 3,163 | 3,264 | 3,343 | 110 | 195 | 3.5 | 6.2 |
| Gas/Diesel Oil | 14,731 | 14,194 | 14,828 | 287 | -41 | 2.1 | -0.3 |
| Residual Fuel Oil | 4,774 | 4,783 | 4,904 | -412 | -139 | -7.9 | -2.8 |
| Other Products | 6,923 | 7,042 | 7,311 | 415 | 282 | 6.3 | 4.0 |
| **Total Products** | **50,552** | **50,395** | **51,386** | **824** | **377** | **1.7** | **0.7** |

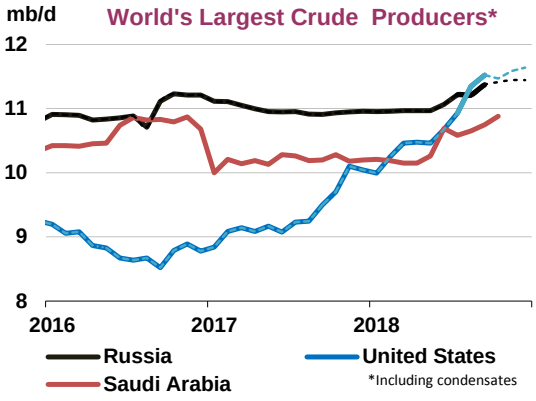
**Egyptian** oil demand continued to weaken in August, declining by 20 kb/d y-o-y. Gasoline demand was down 5 kb/d, gasoil was down 20 kb/d, and fuel oil unchanged. Poor growth in oil deliveries are in reaction to last summer's cuts to subsidies cuts as part of an IMF-backed reform programme. Since November 2016, Egypt has cut energy subsidies twice, increasing gasoline and diesel prices by 40% to 50%.

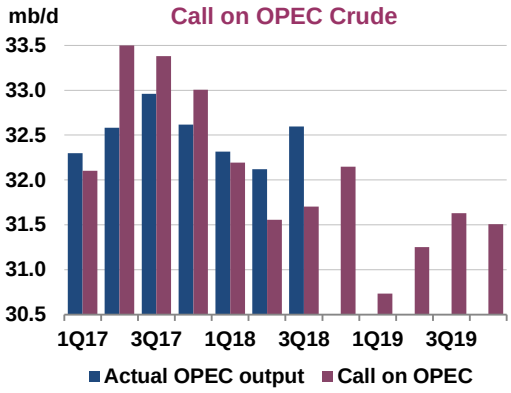
**Pakistan's** latest oil data showed an increase in demand of 45 kb/d y-o-y in September demand. Fuel oil demand was close to last year's level, while gasoline and gasoil demand grew by 10 kb/d and 35 kb/d, respectively.

# SUPPLY

## Summary

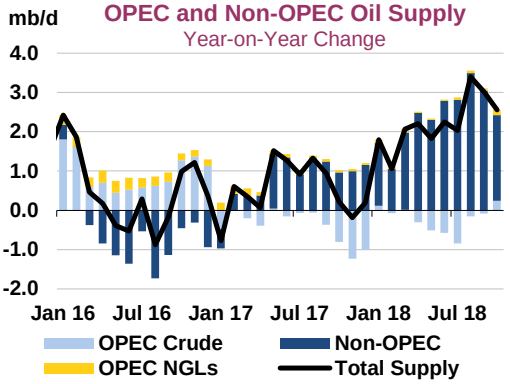
The world's top three oil producers, Russia, the US and Saudi Arabia, are pumping at record levels, holding supply above 100 mb/d even as Iranian output tumbles due to US sanctions and as others post further losses. Storage tanks are filling up as global oil supply far outpaces demand, prompting talk of a possible 1 mb/d OPEC/non-OPEC production cut. Saudi Arabia's record rates of production are likely to be short-lived, having signalled an export cut of 0.5 mb/d in December due to lower seasonal demand. Next year, there is expected to be even less need for OPEC oil due to relentless growth in non-OPEC supply. Continued expansion in the US and Russia and a return to growth in Brazil, is underpinning non-OPEC growth of 1.9 mb/d, following gains of 2.4 mb/d this year. As a result, the call on OPEC crude falls to an average 31.3 mb/d in 2019, nearly 1.7 mb/d lower than current output.




The US, with jaw-dropping year-on-year (y-o-y) growth of nearly 3 mb/d in August, shows little sign of slowing down despite infrastructure bottlenecks. Total oil supply in August surged above 16 mb/d for the first time ever, including crude and condensate output of 11.3 mb/d. This meant that the US overtook Russia as the world's largest crude producer. US production hit 11.6 mb/d by early November. Russian crude output is also rising, in October reaching 11.4 mb/d, nearly 0.5 mb/d higher than a year ago and companies are signalling they could raise output further next year as projects come on line.

In October, world oil production of 100.7 mb/d remained broadly steady on the previous month, but was 2.6 mb/d higher than a year ago. Non-OPEC countries accounted for much of the increase, although OPEC oil supply was up 380 kb/d (y-o-y). Crude oil production from OPEC rose to 32.99 mb/d, the highest since July 2017, as record levels from the UAE and Saudi Arabia more than made up for a further decline in Iran. In the short term, supply from Iran could hold up better than expected after the US granted waivers to eight countries, including major buyers China and India (see *US Waivers keep Iran oil flowing, for now*).




Since May, when US sanctions were announced and Vienna Agreement producers began to unwind cuts, global oil output has soared by a net 1.8 mb/d. The US, with its relentless growth, has provided more than 1 mb/d, Saudi Arabia has ramped up by 620 kb/d and Russia has increased by 445 kb/d. Such record-setting rates have more than made up for declines from Iran (-480 kb/d), Venezuela (-140 kb/d) and seasonal declines in Canada (-200 kb/d) and Kazakhstan (-100 kb/d).

**OPEC / Non-OPEC Output Compliance[1]**

(million barrels per day)

| | Sep 2018 Supply | Oct 2018 Supply | Supply Baseline[2] | Agreed Cut | October Actual Cut | September Compliance | October Compliance | Average Compliance | Sustainable Production Capacity[6] | Spare Capacity vs Oct Supply[7] |
|---|---|---|---|---|---|---|---|---|---|---|
| Algeria | 1.07 | 1.07 | 1.09 | -0.05 | -0.02 | 38% | 38% | 92% | 1.08 | 0.01 |
| Angola | 1.50 | 1.50 | 1.75 | -0.08 | -0.25 | 322% | 322% | 219% | 1.58 | 0.08 |
| Ecuador | 0.53 | 0.52 | 0.55 | -0.03 | -0.03 | 69% | 108% | 78% | 0.54 | 0.02 |
| Equatorial Guinea | 0.12 | 0.11 | 0.14 | -0.01 | -0.03 | 167% | 250% | 131% | 0.13 | 0.02 |
| Gabon | 0.19 | 0.19 | 0.20 | -0.01 | -0.01 | 133% | 133% | 60% | 0.19 | 0.00 |
| Iran[3] | 3.44 | 3.34 | 3.71 | 0.09 | -0.37 | NA | NA | NA | 3.85 | 0.51 |
| Iraq | 4.67 | 4.65 | 4.56 | -0.21 | 0.09 | -52% | -42% | 29% | 4.88 | 0.23 |
| Kuwait | 2.78 | 2.76 | 2.84 | -0.13 | -0.08 | 44% | 60% | 90% | 2.92 | 0.16 |
| Qatar | 0.59 | 0.61 | 0.65 | -0.03 | -0.04 | 193% | 127% | 134% | 0.62 | 0.01 |
| Saudi Arabia | 10.52 | 10.65 | 10.54 | -0.49 | 0.11 | 5% | -22% | 96% | 12.04 | 1.39 |
| UAE | 3.05 | 3.21 | 3.01 | -0.14 | 0.20 | -27% | -142% | 56% | 3.35 | 0.14 |
| Venezuela | 1.27 | 1.26 | 2.07 | -0.10 | -0.81 | 839% | 849% | 380% | 1.26 | 0.00 |
| **Total OPEC 12** | **29.73** | **29.87** | **31.11** | **-1.18** | **-1.24** | **117%** | **105%** | **112%** | | |
| Libya[4] | 1.06 | 1.12 | | | | | | | 1.07 | -0.05 |
| Nigeria[4] | 1.66 | 1.67 | | | | | | | 1.72 | 0.05 |
| Congo[4] | 0.34 | 0.33 | | | | | | | 0.34 | 0.01 |
| **Total OPEC** | **32.79** | **32.99** | | | | | | | **35.57** | **2.07** |
| Azerbaijan | 0.80 | 0.78 | 0.815 | -0.04 | -0.03 | 50% | 87% | 77% | | |
| Kazakhstan | 1.91 | 1.86 | 1.805 | -0.02 | 0.06 | -532% | -292% | -347% | | |
| Mexico | 2.07 | 2.05 | 2.400 | -0.10 | -0.35 | 333% | 346% | 223% | | |
| Oman | 0.98 | 0.98 | 1.019 | -0.05 | -0.04 | 87% | 85% | 92% | | |
| Russia | 11.75 | 11.79 | 11.597 | -0.30 | 0.20 | -51% | -65% | 60% | | |
| Others[5] | 1.20 | 1.18 | 1.253 | -0.05 | -0.07 | 104% | 153% | 56% | | |
| **Total Non-OPEC** | **18.71** | **18.66** | **18.888** | **-0.55** | **-0.23** | **32%** | **42%** | **78%** | | |

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

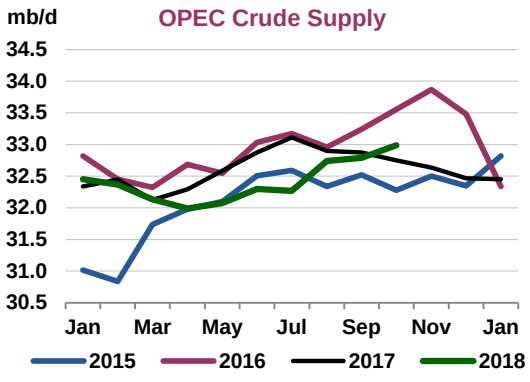
2 OPEC based on Oct 2016 OPEC secondary source figures, except Angola which is based on Sep 2016. Non-OPEC based on IEA Oct total supply estimates. Kazakhstan Nov estimate.

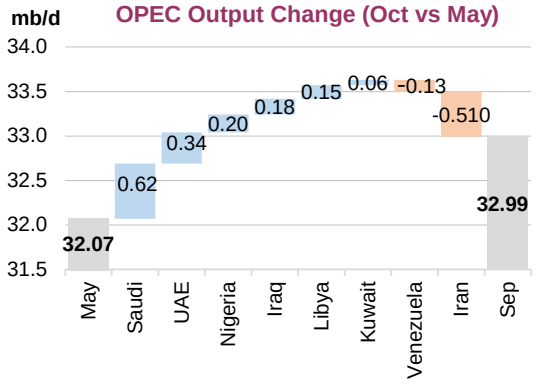
3 Iran was given a slight increase. 4 Libya, Nigeria, Congo are exempt from cuts. 5 Bahrain, Brunei, Malaysia, Sudan and South Sudan.

6 Capacity levels can be reached within 90 days and sustained for an extended period. 7 Spare capacity excludes Iranian crude supply that is offline due to sanctions.

## OPEC crude oil supply

Saudi Energy Minister Khalid al-Falih said in late October that OPEC and its counterparts from non-OPEC were in a "produce as much you can mode" to meet demand. That was the case for October when record production from the UAE and Saudi Arabia raised OPEC crude output by 200 kb/d to 32.99 mb/d, more than compensating for further losses from Iran. Lofty OPEC levels could be sustained through November, with Saudi Arabia and the UAE signalling higher supply. In December, however, Riyadh is expected to adjust to lower demand and reduce output. OPEC has been pumping more than the market has required since the start of this year and in 1Q19, relentless non-OPEC growth and a seasonal dip in demand is expected to cut the call on its crude to 30.7 mb/d, over 2 mb/d below current output.

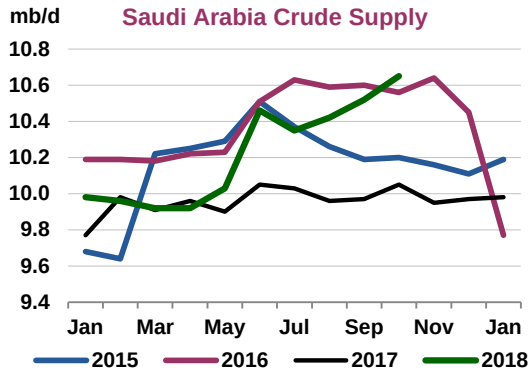


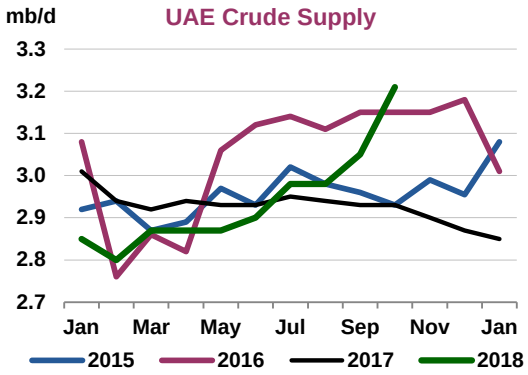




Since May, OPEC output has climbed by more than 900 kb/d, driven by core Gulf producers and bolstered by Libya and Nigeria. This has contributed to a build-up in inventories, left oil markets well-supplied and prompted talk of possible supply cuts when OPEC and non-OPEC meet on 6 December.

Increased supply from OPEC members of the Vienna Agreement saw compliance in October ease to 105%, the lowest since September 2017. The higher flows have also cut spare production capacity to roughly 2% of global demand. Saudi Arabia, which holds the lion's share of the production buffer, saw its spare capacity shrink to 1.39 mb/d during October. However, the capacity tightness could start to ease thanks to expansion efforts underway in the UAE, Iraq, Libya, Nigeria and Angola.

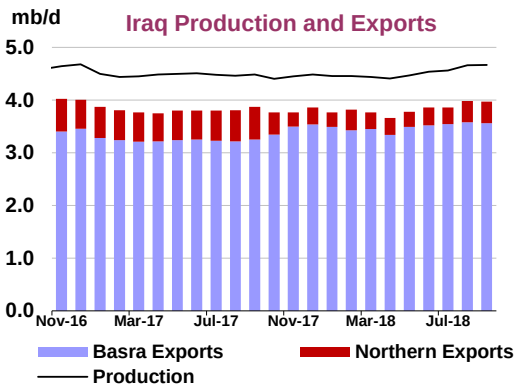
**Saudi Arabia's** record performance in October saw crude oil supply rise 130 kb/d month-on-month (m-o-m) to 10.65 mb/d. Shipments of crude climbed by around 200 kb/d to 7.4 mb/d in October, according to *Kpler* data, in response to higher demand from customers. Loadings in the early part of November appear to be higher still. Saudi Energy Minister Khalid al-Falih has said crude oil production would rise close to 11 mb/d before a seasonal weakening of demand cuts supply to the market by 0.5 mb/d during December.




Elsewhere in the Gulf, the **UAE** also smashed records, with production rising 160 kb/d to 3.21 mb/d. Output eased to 2.76 mb/d in **Kuwait** and edged up in **Qatar** to 610 kb/d. In the UAE, capacity building is moving apace with the Abu Dhabi National Oil Co (Adnoc) setting bold new targets of 4 mb/d by 2020 and 5 mb/d by 2030. If this is achieved, the UAE could overtake Iran and become the third largest producer in OPEC after Saudi Arabia and Iraq. For more than a decade, the UAE has aimed for capacity of 3.5 mb/d, a target that could be met by the end of this year. To reach 4 mb/d, the expansion of the giant Upper Zakum field to 1 mb/d will be crucial. For the 5 mb/d mark, Adnoc would have to rely on resources from six blocks now on offer in its upstream licensing round and the development of a major new discovery that contains 1 billion barrels of oil. Qatar meanwhile plans to manage the 100 kb/d Idd El-Shargi oil field by itself. Qatar Petroleum (QP) will not renew the development contract for the offshore field with Occidental Petroleum when it expires in October 2019. A 25-year deal was signed for the field's North Dome in 1994 and the South Dome was added later.

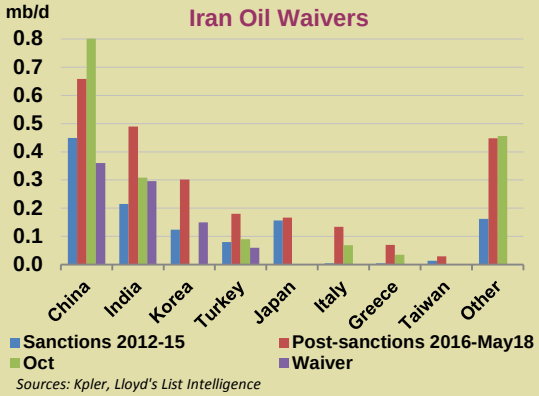
Production from **Iraq**, including the Kurdistan Regional Government (KRG), dipped to 4.65 mb/d, holding close to a record set in December 2016. Recently appointed and returning oil minister Thamir Ghadhban has vowed to press ahead with capacity expansion plans. To that end, the ministry of oil hopes shortly to award the first part of a water injection project that is crucial to boosting production from its southern oil fields. The $4 billion first phase of the Common Seawater Supply Project (CSSP), which may take four years to complete, will help support and raise output from Rumaila, West Qurna-1/2 and Zubair.



These fields, along with Halfaya, have been ramping up to support robust export levels. Rough weather in the Gulf during October cut exports of southern Basra crude by 90 kb/d to 3.47 mb/d. Production from the northern Kurdistan region is also rising from fields such as Peshkabir and the Khurmala dome of the Kirkuk oil field. Shipments of northern crude through the KRG's pipeline to Turkey, the capacity of which was recently expanded from 700 kb/d to 1 mb/d, edged up to 420 kb/d during October. Iraq has the potential to provide a swift supply increase from its northern oil fields if, as has been reported, a long-standing political feud between Baghdad and the KRG is resolved. If so, some 200 kb/d of oil could become available.

### *US waivers keep Iran oil sales flowing, for now*

US sanctions, reimposed on 5 November, will cut a substantial chunk out of Iranian oil exports for some time to come, but six-month waivers may prevent a further dramatic decline in the short-term. Shipments of Iranian oil in October were already down 900 kb/d versus May, but major customers granted waivers are already looking to secure barrels. It is still unclear how much further exports will fall. In the meantime, temporary allotments will help keep the market well-supplied while the US remains committed to seeing Iran's shipments fall to zero.




*Sources: Kpler, Lloyd's List Intelligence*

| | Post Sanctions Volume ('000 b/d) | Waiver* ('000 b/d) |
|---|---|---|
| China | 660 | 360 |
| India | 490 | 300 |
| Korea | 300 | 150 |
| Turkey | 180 | 60 |
| Japan | 170 | NA |
| Italy | 130 | NA |
| Greece | 70 | NA |
| Taiwan | 30 | NA |

** Based on press reports; NA = not available.*

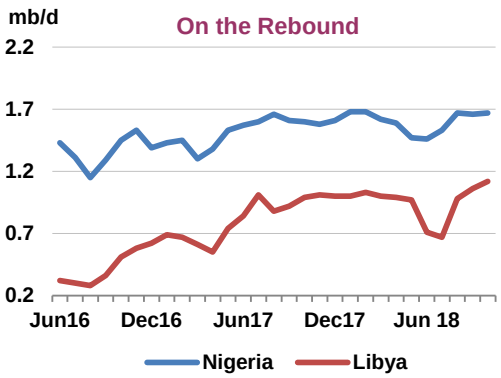
During October, shipments of Iranian oil fell 90 kb/d to 1.8 mb/d with waiver countries – China, India, Korea, Turkey, Japan, Italy, Greece and Taiwan – loading more than 70% of the volume, according to *Kpler* data. South Korea, France and Japan's shipments were down to zero. Sales to Europe were roughly 200 kb/d versus 750 kb/d in May. India, Iran's second biggest lifter, cut back to about 310 kb/d. Exports to top buyer China, however, rose to 820 kb/d. Part of that volume reportedly was moved by Iran into bonded storage in China. Separately, the US government has allowed Iraq to continue importing Iranian gas and power for 45 days and has been working with Baghdad on restarting crude exports from Kirkuk.

As more buyers distanced themselves from Iran ahead of the sanctions deadline, production of Iranian crude oil fell 100 kb/d to 3.34 mb/d in October, down 510 kb/d since May. At the end of October, the National Iranian Oil Co (NIOC) had stored roughly 7 mb of oil on four tankers moored off Kharg Island.

As for the upstream, Iran may have to temper ambitions to boost output capacity if it is unable to drum up enough investment from international oil companies. NIOC had hoped the easing of sanctions in January 2016 would lure foreign funds and technology into its oil sector. However, western companies such as OMW, Wintershall and Maersk Oil have dropped out of negotiations and Zarubezhneft reportedly has abandoned its deals to develop onshore oil fields. China National Petroleum Corp is one of the few foreign firms operating in Iran. It is developing the North Azadegan field, from which it is repaid in equity oil.

OPEC's African members also have hopes for higher capacity. Libya and Nigeria are aiming to build on a recovery that has lifted output by 150 kb/d and 200 kb/d, respectively, since May. **Libyan** output rose 60 kb/d m-o-m to 1.12 mb/d, the highest level in more than five years. The objective is to sustain output at current rates and then boost it to the 1.6 mb/d level reached before the fall of Muammar Gaddafi in 2011. Stability, however, remains at risk due to continuing unrest and security issues. One of the top priorities is to repair damage to the Es Sider and Ras Lanuf export outlets caused by militia attacks. Investment will also be channelled into infrastructure repairs at the oil fields.

In **Nigeria**, output crept up to 1.67 mb/d in October and was 70 kb/d above the October 2017 level. As with Libya, however, supply is prone to disruption due to internal conflict. In the coming months, Nigeria is relying on Total's $16 billion Egina project to lift supply when the 200 kb/d deepwater project comes online in December.



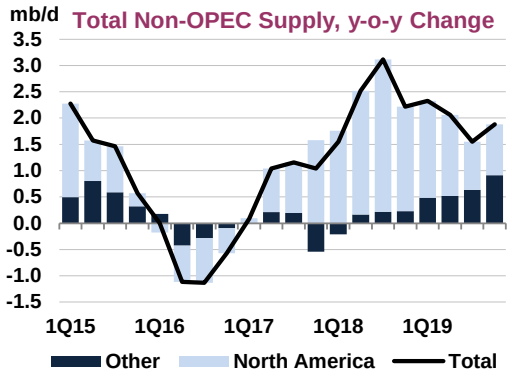

**Angola's** output performance is slowly improving after Total's ultra-deep-water Kaombo project started up in July. Production in October was steady at 1.50 mb/d but was still down 160 kb/d on a year ago, as declines at mature fields have continued.

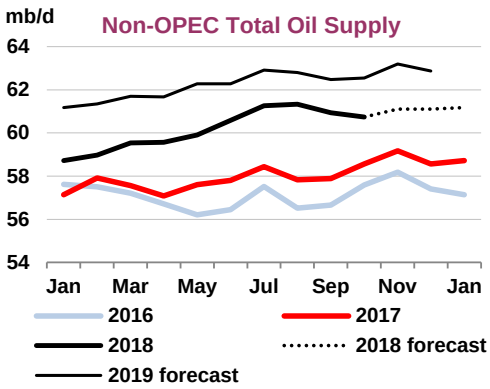
Output from other African producers held broadly steady m-o-m. **Algerian** output was unchanged m-o-m at 1.07 mb/d, but there is good news for the long term after Eni expanded its portfolio with three onshore oil blocks in the North Berkine basin in the east of the country. It will also explore Algeria's deepwater with Total. The three oil licenses, in which Eni holds a 49% share and Sonatrach the remainder, are estimated to hold 145 mb of oil equivalent. The aim is for first production by the end of 2020. In **Equatorial Guinea**, production dipped to 110 kb/d. Output in **Congo** was marginally lower in October at 330 kb/d. Supply in **Gabon** held at 190 kb/d. In a bid to drum up investment, Gabon is proposing to remove a corporate tax rate of 35% and offer flexibility in negotiations. A new licensing round to be launched in January includes 23 blocks in Gabon's deepwaters that failed to attract bids in 2015. A lack of exploration and development has taken a toll on Gabon's upstream. Output has declined steadily since peaking at 380 kb/d in 1997.

Output in **Venezuela** eased to 1.26 mb/d in October, down 600 kb/d on a year ago. Declines are likely to continue given the severe cash crunch at Petroleos de Venezuela and a shortage of skilled workers. Production is falling at ageing conventional oil fields and during October, the Petromonagas crude upgrader in the Orinoco heavy oil belt, operated by PDVSA and Rosneft, halted operations due to planned maintenance. Output from **Ecuador** dipped to 520 kb/d.

## Non-OPEC

Non-OPEC's three largest oil producers, the United States, Russia and Canada, are boosting output to record highs. Even as production continues to decline elsewhere, non-OPEC output is growing at a breakneck pace. During 3Q18, total supply was more than 3.1 mb/d higher than a year ago, a record level of growth. Moving into 4Q18, in October non-OPEC supply is estimated to have fallen by 195 kb/d m-o-m, to 60.7 mb/d, on scheduled and unscheduled outages and seasonally lower biofuels output.



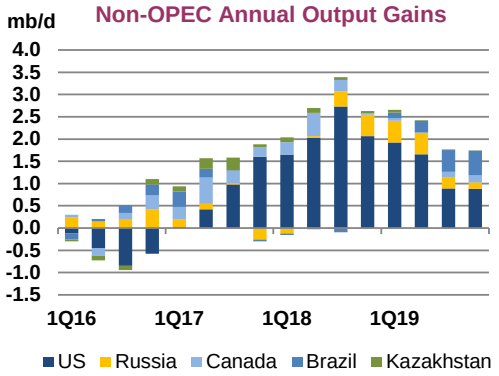
The United States remains the key driver in 3Q18, accounting for around 90% of the net y-o-y increase. The outlook for US oil supply has been raised significantly since last month's *Report.* Sharply higher prices have led to a rapid increase in well completions in recent months, defying expectations that infrastructure bottlenecks and lower productivity would lead to a slowdown in growth. While service companies suggested there was a slowdown in activity, producers raised growth projections on better than expected well results and as pipeline expansion plans are advanced to relieve bottlenecks. Total US oil supplies are forecast to grow by 2.1 mb/d this year and 1.3 mb/d during 2019.

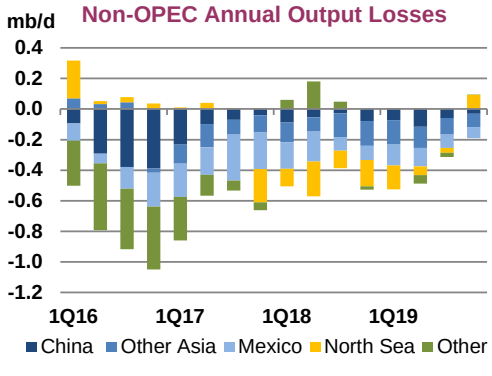
The latest monthly production figures published by the US Energy Information Administration showed August output expanding by nearly 3 mb/d y-o-y, taking total oil supply above 16 mb/d for the first time ever. Moreover, crude and condensate production surged by more than 415 kb/d m-o-m to 11.3 mb/d, overtaking Russia as the world's largest crude producer, where output also reached record levels. Preliminary data show US output rising sharply also in September and October, hitting as much as 11.6 mb/d in early November.

In October, Russian crude and condensate production hit 11.4 mb/d, 445 kb/d more than in May just ahead of the meeting of Vienna Agreement countries, and nearly 0.5 mb/d higher than one year ago. Russian producers are signalling they could raise output further next year, unless output cuts are ordered by the government. Following output gains of 190 kb/d on average this year, Russian oil supplies, including NGLs, are expected to expand by 340 kb/d in 2019 to 11.9 mb/d.

The outlook for non-OPEC's third largest oil producer, Canada, is looking more precarious, however. A US judge ordered a halt to construction of the Keystone XL pipeline in early November. This could delay the completion of the line that is to transport heavy crude from Alberta to the US. Robust growth so far this year has already seen output exceed takeaway capacity, driving the discount of Canadian crude prices to US grades to unprecedented levels near $50/bbl. While producers are taking steps to increase rail capacity to relieve bottlenecks, until Enbridge's Line 3 Replacement Project comes on line in the second half of 2019, Canadian grades will remain under pressure. Producers in Alberta are already signalling they might scale back output in coming months, and we have accordingly lowered our projections for the remainder of this year and the first half of 2019. Canadian oil output grew by 350 kb/d on average during the first nine months of 2018, to hit an all-time high of 5.25 mb/d in August. For 2018 as a whole, output is expected to expand by 270 kb/d, followed by an increase of 85 kb/d next year.

Outside of these three countries, expansions are few and far between. Kazakhstan is an exception and preliminary loading data suggest that the Kashagan field is finally nearing capacity, extending output gains seen since early 2017. Brazil was poised to lead non-OPEC supply growth this year with the start-up of seven new production systems but there has been hardly any increase at all as steep declines at mature fields and maintenance derailed growth. In September, crude oil production plunged to a near 3-year low, posting its biggest year-on-year decline in more than five years. Even so, Brazil is expected to recover strongly next year, adding 360 kb/d to world oil supply.



Elsewhere, non-OPEC oil supply is falling. Even as declines in China's crude output have eased, to around 100 kb/d on average so far this year, output is on a clear downward trend. The same is true for other Asian producers, which saw production fall by 125 kb/d on average through September. Over the same period, North Sea output slipped by 150 kb/d, led by lower Norwegian production. Mexican production dropped by a similar amount.

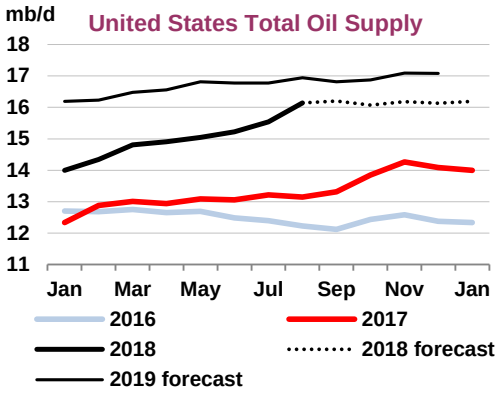
In total, non-OPEC oil supply is expected to grow by 2.4 mb/d in 2018 and a further 1.9 mb/d next year, to 62.3 mb/d.

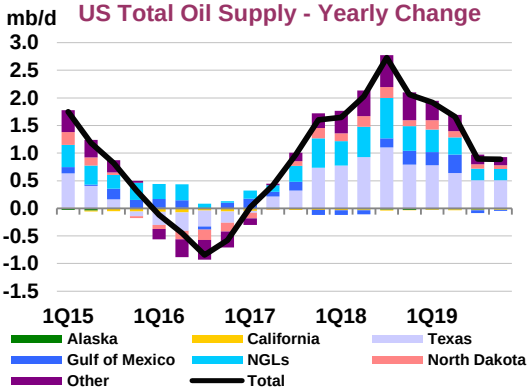
**Non-OPEC Supply**

(million barrels per day)

| | 2017 | 1Q18 | 2Q18 | 3Q18 | 4Q18 | 2018 | 1Q19 | 2Q19 | 3Q19 | 4Q19 | 2019 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Americas | **20.3** | 21.7 | 22.2 | 23.2 | 23.2 | **22.6** | 23.6 | 23.7 | 24.1 | 24.2 | **23.9** |
| Europe | **3.5** | 3.6 | 3.4 | 3.3 | 3.3 | **3.4** | 3.4 | 3.3 | 3.3 | 3.4 | **3.3** |
| Asia Oceania | **0.4** | 0.4 | 0.4 | 0.4 | 0.4 | **0.4** | 0.4 | 0.5 | 0.5 | 0.5 | **0.5** |
| **Total OECD** | **24.2** | 25.7 | 25.9 | 26.9 | 26.9 | **26.4** | 27.4 | 27.5 | 27.8 | 28.1 | **27.7** |
| Former USSR | **14.3** | 14.4 | 14.5 | 14.6 | 14.9 | **14.6** | 15.0 | 15.0 | 14.9 | 15.0 | **15.0** |
| Europe | **0.1** | 0.1 | 0.1 | 0.1 | 0.1 | **0.1** | 0.1 | 0.1 | 0.1 | 0.1 | **0.1** |
| China | **3.9** | 3.8 | 3.9 | 3.8 | 3.8 | **3.8** | 3.7 | 3.7 | 3.7 | 3.7 | **3.7** |
| 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 | 4.5 | **4.5** | 4.6 | 4.8 | 4.9 | 5.0 | **4.8** |
| Middle East | **1.2** | 1.2 | 1.3 | 1.3 | 1.3 | **1.3** | 1.3 | 1.3 | 1.2 | 1.2 | **1.2** |
| Africa | **1.4** | 1.4 | 1.5 | 1.5 | 1.4 | **1.5** | 1.5 | 1.4 | 1.4 | 1.4 | **1.4** |
| **Total Non-OECD** | **29.0** | 29.0 | 29.1 | 29.0 | 29.3 | **29.1** | 29.4 | 29.5 | 29.5 | 29.8 | **29.6** |
| Processing Gains | **2.3** | 2.3 | 2.3 | 2.3 | 2.3 | **2.3** | 2.3 | 2.3 | 2.3 | 2.3 | **2.3** |
| Global Biofuels | **2.5** | 2.1 | 2.7 | 3.0 | 2.5 | **2.6** | 2.2 | 2.8 | 3.0 | 2.7 | **2.7** |
| **Total Non-OPEC** | **58.0** | 59.1 | 60.0 | 61.2 | 61.0 | **60.3** | 61.4 | 62.1 | 62.7 | 62.9 | **62.3** |
| Annual Chg (mb/d) | **0.8** | 1.6 | 2.5 | 3.1 | 2.2 | **2.4** | 2.3 | 2.0 | 1.5 | 1.9 | **1.9** |
| Changes from last OMR (mb/d) | **0.00** | 0.00 | 0.01 | 0.39 | 0.28 | **0.17** | 0.33 | 0.22 | 0.46 | 0.29 | **0.33** |

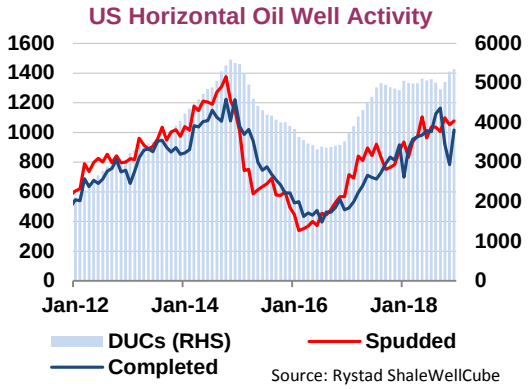
In the **United States**, oil output is surging despite infrastructure bottlenecks, rising costs and a shift in investment strategy towards improving balance sheets. Final US crude production numbers for August were nearly 400 kb/d higher than preliminary estimates. Total oil supplies were up more than 600 kb/d on July to hit a new high above 16.1 mb/d.



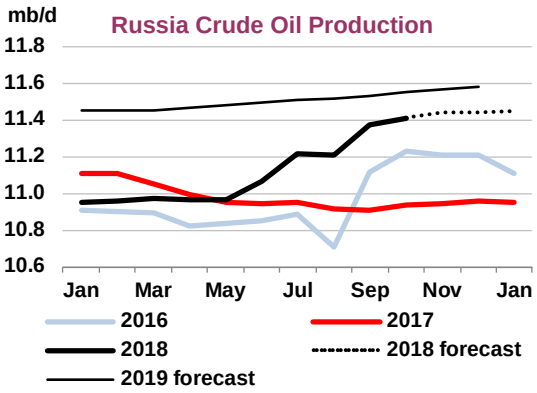

This was nearly 3 mb/d higher than a year earlier and well above our earlier estimates. Crude production rose by 415 kb/d, to 11.35 kb/d, another record high and up 2.1 mb/d on a year earlier. The m-o-m increase was driven by a 125 kb/d increase in Texas and a 75 kb/d increase in the Gulf of Mexico. Output also rose in New Mexico (+55 kb/d), Colorado (+40 kb/d), Oklahoma (+23 kb/d), North Dakota (+22 kb/d) as well as Alaska (+33 kb/d). NGL production increased by 160 kb/d m-o-m, to 4.6 mb/d, a gain of more than 800 kb/d in just a year.

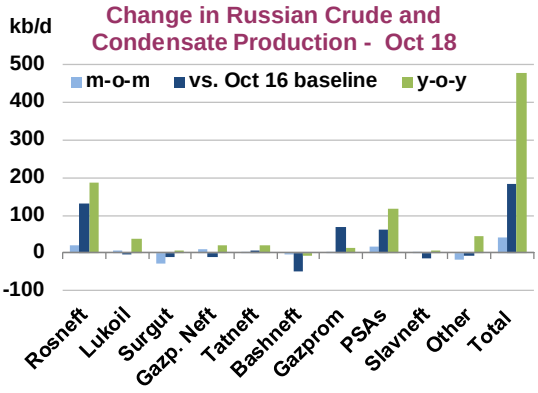
Higher prices and additional fracking capacity has led to an acceleration of well completions. According to Rystad Energy's ShaleWellCube, the number of horizontal wells targeting oil in the US has risen sharply since the start of the year. In August, more than 1 100 wells were completed, the highest number since December 2014. Moreover, according to Rystad, the completion rates have caught up with the number of drilled wells so that the inventory of drilled but uncompleted wells (DUCs) have largely held steady and even reduced somewhat since May.




In their 3Q18 earnings releases, just about all companies reported better than expected results and raised production guidance for the remainder of the year and for 2019. In fact, several companies active in the shale patch expect robust growth to continue next year. Moreover, pipeline projects are being advanced to relieve bottlenecks. US oil production is now seen growing by 2.1 mb/d this year, and 1.3 mb/d during 2019, but could again surprise to the upside next year.

**Russian** crude and condensate production set another record high in October, rising to 11.4 mb/d. Output was up by 40 kb/d from the previous month and stood nearly 480 kb/d higher than a year ago. Month on month increases came from Rosneft (+20 kb/d), Gazprom Neft (+10 kb/d) and Production Sharing Agreements (PSAs) (+16 kb/d), which have all set new output records following the June decision to amend output curbs. Excluding subsidiaries, Rosneft pumped more than 4 mb/d of crude oil for the first time in October, an increase of 180 kb/d since May just before the meeting of Vienna Agreement countries. Total Rosneft output in Russia hit 4.7 mb/d. PSA producers hiked output by 16 kb/d, to surpass 400 kb/d for the first time, with Exxon and its partners boosting capacity at Sakhalin 1. The PSA pumped 270 kb/d in September. Gazprom Neft added 10 kb/d, to 804 kb/d, still 40 kb/d lower than the all-time high recorded over July and August. Smaller gains were also seen from other producers, offsetting a drop in output from Surgutneftegaz and smaller companies.

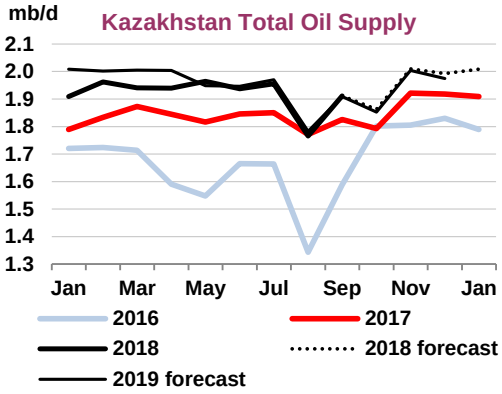


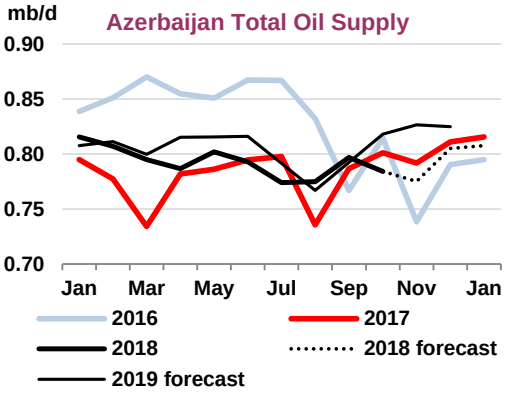




Since May, Russia has increased production by 445 kb/d, and output is set to rise further. During October, Grazprom Neft said it was ready to lift production by an additional 20-30 kb/d this year and another 50 kb/d over 2019. More output could also come from Rosneft, which plans to launch more than seven new major fields over the next 18 months. During its latest earnings presentation, it said it had fully restored output at brownfield units in western Siberia and Orenburg region. The bulk of the production growth has come from greenfield projects and its western Siberian subsidiary Yuganskneftegaz, Suzun, East Messayokah, Yurubcheno-Tokhomskoye. As these projects continue to ramp up, and with further gains from the Russkoye field that will start commercial output by year-end, Rosneft plans to hike its domestic output to 4.82 mb/d next year and 5 mb/d by 2022.

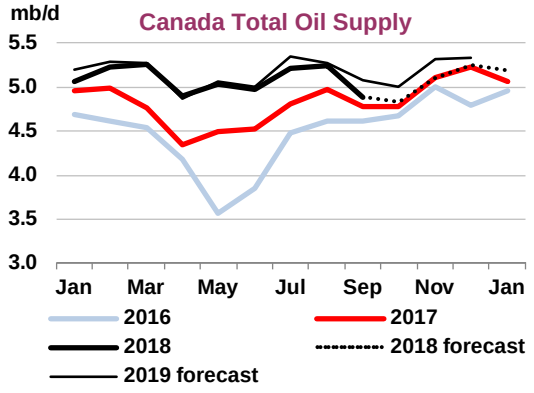
While renewed speculation about output curbs and increased financial sanctions on Russia pose risks to the outlook, we expect crude and condensate production to average 11.2 mb/d this year, rising to 11.5 mb/d next year. Including NGLs from gas processing plants, output will reach nearly 11.9 mb/d.

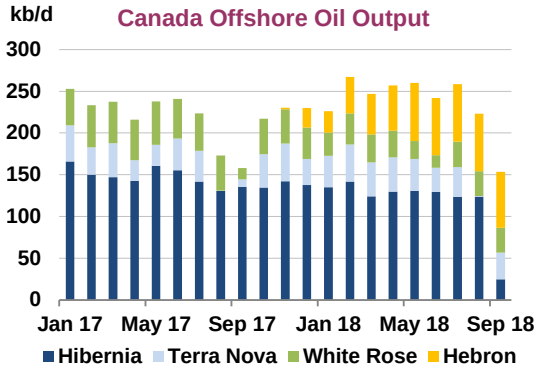
Oil production in **Kazakhstan** rebounded in September by 145 kb/d, to 1.91 mb/d. A 150 kb/d m-o-m increase at Tengiz, following maintenance in August, and higher Kashagan production more than offset a drop in Karachaganak output. Kashagan produced 290 kb/d in September. According to the Minister of Energy, Kanat Bozumbayev, output has since risen to 340 kb/d and could soon reach 370 kb/d. CPC loadings for October confirm higher Kashagan output but show an 80 kb/d decline in Tengiz shipments. November schedules show further gains, which should take production to a record high. Following gains of 175 kb/d in 2016 and 90 kb/d this year, Kazakh production is expected to grow for a third straight year in 2019, by 20 kb/d. **Azeri** oil production eased by 13 kb/d in October to 784 kb/d.




**Canadian** oil supplies dropped sharply in September, as both oil sands output and offshore production declined. At nearly 4.9 mb/d, total oil output was 360 kb/d lower than a month earlier but 100 kb/d higher than a year ago. Offshore output fell by 70 kb/d m-o-m due to the shutdown of the Hibernia field and continued maintenance at the Terra Nova installation. Synthetic crude oil output dropped by 245 kb/d m-o-m, to 890 kb/d, after the Syncrude upgrader closed due to a malfunction at the end of August. Raw bitumen output eased by 50 kb/d m-o-m, to 1.95 mb/d, possibly as some producers decided to scale back production due to the sharp discounts received for the crude.



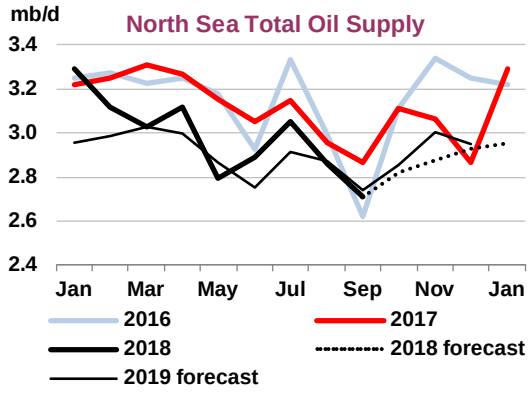

Western Canada Select (WCS) was priced $45/bbl lower than WTI in Cushing during September. Fetching less than $20/bbl for their crude, several producers have signalled they will curb output through year-end. Notably, Cenovus and Canada Natural Resources Limited (CNRL), MEG, Athabasca Oil Corp and Obsidian Energy have all announced they were curtailing output during 4Q18. Cenovus said it would use its storage capacity in the oil sands reservoirs to manage its production and sales. Other producers, unable to cover operating costs, are delaying the start of new wells and deferring drilling programs. No

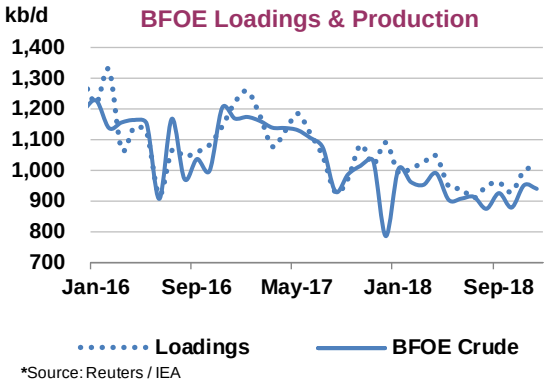
new pipeline capacity will come on line before the second half of 2019, when Enbridge's Line 3 replacement project will be put into service adding 375 kb/d of export capacity. In the meantime, companies are utilising rail shipments, but there is insufficient capacity to relieve the bottlenecks. As a result, the outlook for Canadian production for 4Q18 and the first half of next year has been curtailed.

Over the first nine months of 2018, output has been 350 kb/d higher y-o-y. For the year as a whole, output is forecast to expand by 270 kb/d, but ongoing infrastructure bottlenecks will see growth in 2019 slow to 85 kb/d.

**Mexican** oil output inched up by 10 kb/d in September to 2.07 mb/d as higher production from Ku Maloob Zaap offset further declines at offshore fields in the South East Marine region. Pemex lowered its 2018 crude oil production outlook from 1.952 mb/d expected at the start of the year to 1.82 mb/d. Pemex expects output to average 1.83 mb/d through 2019, a slightly more optimistic view than our own forecast, which sees total Mexican crude oil output drop to 1.75 mb/d on average.

**North Sea** oil production fell by 150 kb/d in September, to 2.7 mb/d, according to preliminary data. A 250 kb/d monthly decline in Norway was partly offset by higher output in the UK and in Denmark, which had both seen production curtailed a month earlier. Over the first nine months of the year, North Sea supplies were 150 kb/d lower than a year ago, with the decline mostly from Norway and, to a lesser extent, Denmark. After hitting a 32-year low in August of only 69 kb/d, **Danish** oil output rebounded by 55 kb/d to 120 kb/d. **UK** production rose by 44 kb/d, to 990 kb/d, 20 kb/d above a year ago. Norwegian oil production stood at 1.6 mb/d, 160 kb/d below a year earlier and 12% less than the Norwegian Petroleum Directorate's outlook at the start of the year due to higher than expected maintenance.



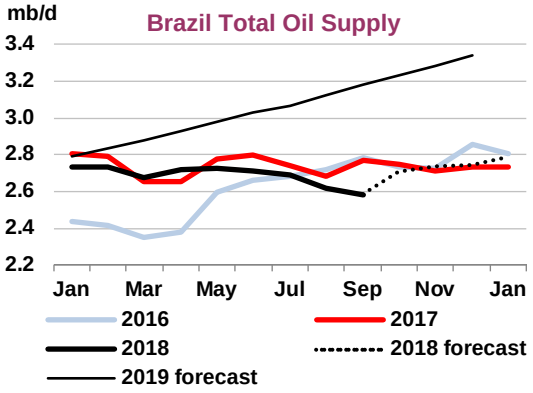



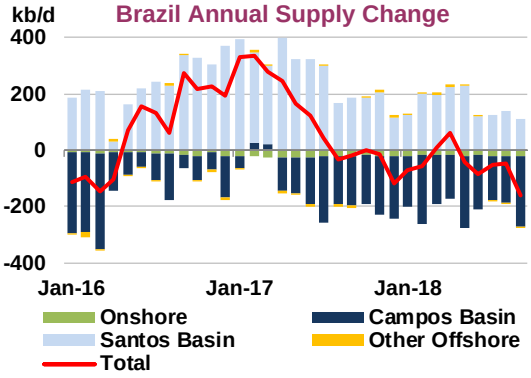

*Source: Reuters / IEA

Tanker tracking data for October and loading schedules published by Reuters for November and December show only a marginal uptick in shipments during 4Q18. Moreover, a brief closure of the Sture oil and gas terminal on the west coast of Norway in early November following a ship collision led to the closure of the Oseberg, Grane, Troll A, Edvard Grieg and Ivar Aasen facilities. While the terminal and oil platforms were swiftly restarted, production has been revised lower since last month's *Report*. Total North Sea oil production is forecast to decline by 160 kb/d on average this year and 35 kb/d kb/d during 2019, as new field start-ups in the UK and Norway fail to fully offset declines.

Steep declines at mature fields, heavy maintenance and a later than expected start-up of new production units continues to derail output growth in **Brazil.** Slipping another 35 kb/d, to 2.58 mb/d, in September, total oil production plunged 190 kb/d below year-earlier levels, the steepest annual decline in more than five years. Maintenance at the Jubarte and Roncador fields resulted in Campos basin output falling to 1.07 mb/d, its lowest level since February 2000 and some 250 kb/d below a year ago. Campos Basin output has fallen by a nearly 730 kb/d or 40% since the end of 2014, and Petrobras is signing strategic partnership agreements with foreign producers in an attempt to ease the pace of decline, although this

will take time and effort. The sharp declines at mature fields offset a recovery in the pre-salt, which rose by 45 kb/d m-o-m to 1.42 mb/d. Pre-salt production should rise further during 4Q18 as new units ramp up. In late October, Petrobras fired up its third FPSO this year, the 150 kb/d P-69 in Lula Extreme South and in mid-November, the second FPSO (P-75) destined for the Búzios reported first oil.

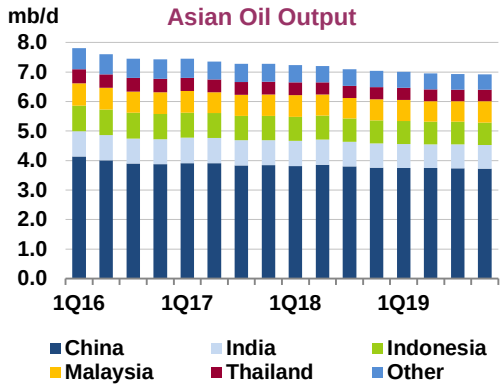


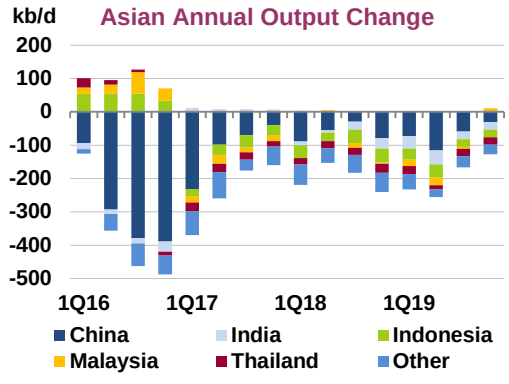




Petrobras still maintains another two production units will come on line before the end of the year, but the likelihood of some of them slipping into 2019 is increasing. Next year should see the start-up of another three units, underpinning expected production growth of 360 kb/d. In 2018, total oil output looks set to decline by 40 kb/d overall.

In **Argentina**, output continues to rise as light tight oil production from the Vaca Muerta Basin more than offset declines in conventional areas. In September, total liquids supply rose by 7 kb/d to 590 kb/d, its highest level in nearly two years. **Colombian** output held steady at 875 kb/d in September, while output in **Peru** recovered from August's low of 108 kb/d to average 125 kb/d over September and October.

In **Asia**, output continues to fall. Even as the pace of declines in **China** has eased, crude oil production fell by 75 kb/d in September to 3.64 mb/d, its lowest level since July 2007 and 90 kb/d below a year earlier. **Malaysian** production over August and September was sharply lower, averaging 670 kb/d, compared with 740 kb/d in July and 710 kb/d a year ago. **Indonesian** production slipped to 790 kb/d, down 30 kb/d y-o-y, while **Vietnamese** output fell by 35 kb/d y-o-y to 230 kb/d. **Indian** output dropped to 834 kb/d, down 20 kb/d y-o-y.

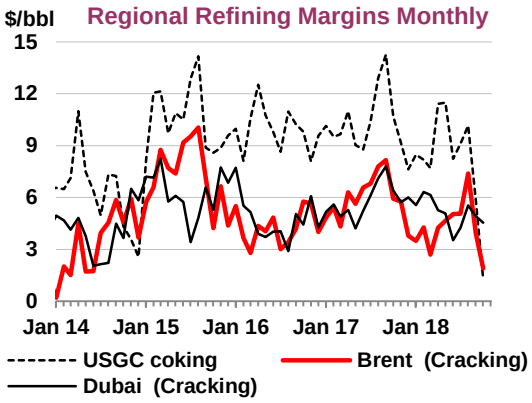


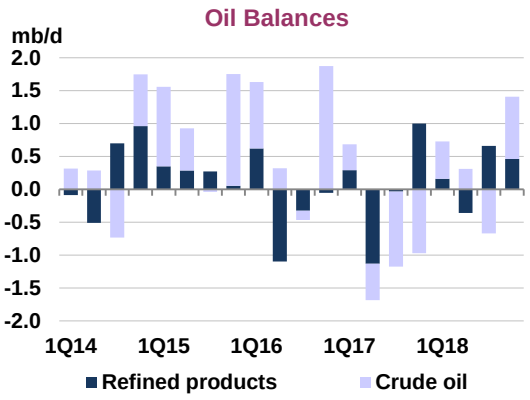



# REFINING

## Summary

In October, some of the indicative refining margins fell to their lowest levels since 2014, driven by sharply higher crude oil prices and a build-up in refined product stocks. The precipitous drop was halted only by the return of Brent crude prices to around $70/bbl in November. For the first time in three years, refiners had 3Q18 throughput at levels sufficient to not only cover the seasonal peak in refined products demand, but also to build stocks. Global throughput was up 1.5 mb/d year-on-year (y-o-y), and 2 mb/d quarter-on-quarter (q-o-q), resulting in the highest refined product stock builds since 3Q14.




Moreover, with runs now set to increase 2.7 mb/d from October to December, and refined product demand seasonally flat, barring extreme cold weather in the northern hemisphere, product inventories are expected to continue building. To incentivise runcuts, complex refining margins would need to fall again and remain at barely positive levels for the rest of the quarter. However, after an estimated 670 kb/d draw in 3Q18, crude markets look oversupplied in 4Q18. Consequently, lower crude prices may prevent margins from deteriorating further. Our forecast for 2019 runs remains unchanged, with annual growth at 1.2 mb/d, resulting in a 0.5 mb/d refined product stock build. Key pressure points for next year will be continued weakness in the light distillates complex (see *Margins*) and the ability of incremental US shale barrels to find a home (see *OECD refinery throughput*).

**Global Refinery Crude Throughput[1]**

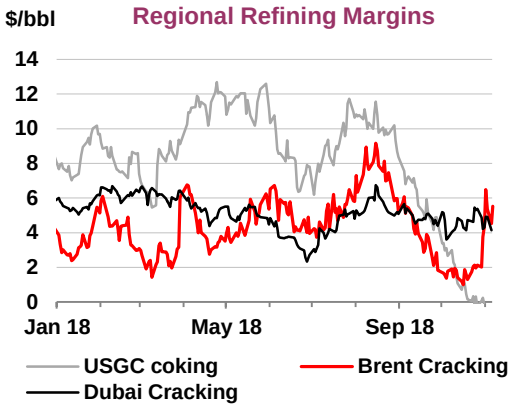
(million barrels per day)

| | 2Q18 | Jul 18 | Aug 18 | Sep 18 | 3Q18 | Oct 18 | Nov 18 | Dec 18 | 4Q18 | 2018 | 2019 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Americas | **19.4** | 19.9 | 20.3 | 19.6 | **19.9** | 18.7 | 19.6 | 20.1 | **19.5** | **19.4** | **19.7** |
| Europe | **11.7** | 12.4 | 12.9 | 12.6 | **12.6** | 12.0 | 12.4 | 12.6 | **12.3** | **12.2** | **12.3** |
| Asia Oceania | **6.6** | 7.0 | 7.1 | 6.9 | **7.0** | 6.7 | 7.0 | 7.4 | **7.0** | **7.0** | **6.9** |
| **Total OECD** | **37.8** | 39.4 | 40.2 | 39.0 | **39.5** | 37.5 | 39.0 | 40.1 | **38.8** | **38.6** | **38.9** |
| FSU | **6.9** | 7.3 | 7.0 | 6.9 | **7.1** | 6.8 | 6.9 | 6.8 | **6.8** | **6.9** | **6.8** |
| Non-OECD Europe | **0.6** | 0.6 | 0.6 | 0.6 | **0.6** | 0.6 | 0.6 | 0.6 | **0.6** | **0.6** | **0.6** |
| China | **12.0** | 11.8 | 11.7 | 12.4 | **12.0** | 12.3 | 12.2 | 12.3 | **12.3** | **12.0** | **12.5** |
| Other Asia | **10.5** | 10.7 | 10.2 | 10.4 | **10.5** | 10.6 | 10.7 | 10.7 | **10.7** | **10.6** | **10.9** |
| Latin America | **3.7** | 3.6 | 3.6 | 3.5 | **3.6** | 3.5 | 3.4 | 3.4 | **3.4** | **3.6** | **3.4** |
| Middle East | **7.6** | 7.9 | 8.0 | 7.9 | **7.9** | 7.9 | 8.0 | 8.0 | **8.0** | **7.7** | **8.0** |
| Africa | **2.0** | 1.9 | 1.9 | 2.0 | **1.9** | 2.0 | 2.0 | 2.1 | **2.1** | **2.0** | **2.0** |
| **Total Non-OECD** | **43.2** | 43.9 | 43.1 | 43.7 | **43.6** | 43.9 | 43.9 | 44.0 | **43.9** | **43.4** | **44.3** |
| **Total** | **81.1** | 83.3 | 83.4 | 82.7 | **83.1** | 81.3 | 82.9 | 84.1 | **82.8** | **82.0** | **83.2** |
| *Year-on-year change* | *0.6* | *1.5* | *1.0* | *2.0* | *1.5* | *0.6* | *0.3* | *0.7* | *0.6* | ***0.9*** | ***1.2*** |

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

## *Margins*

Margins were generally lower in October month-on-month (m-o-m), although some sour margins increased thanks to wider baseline crude differentials, notably simple Urals margins in the two European hubs and Singapore. US Midwest margins, except for sweet WTI-based crudes, were also up m-o-m, as PADD 2 utilisation rates dropped sharply due to numerous outages. In Europe and Singapore, most of the support came from narrower discounts of fuel oil, explained by lower refinery runs in October affecting straight-run products supply. Middle distillate cracks were also helped by seasonally lower refining activity , as demand is set to increase holiday travel and road freight, along with the start of the winter heating season in the northern hemisphere.




### IEA/KBC Global Indicator Refining Margins[1]

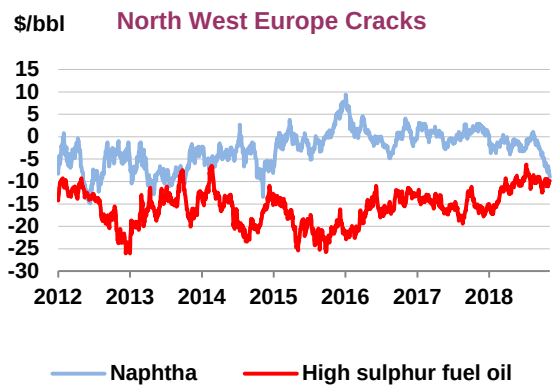
($/bbl)

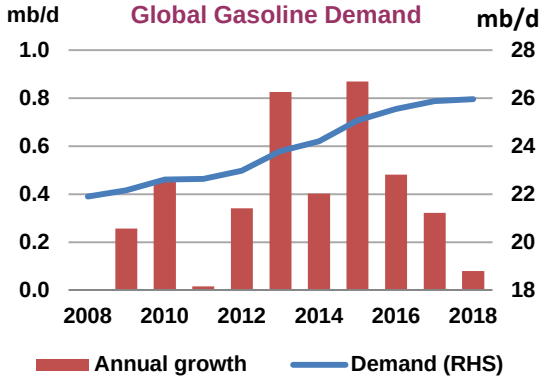
| | Monthly Average | | | | Change | | Average for week ending: | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Jul 18 | Aug 18 | Sep 18 | Oct 18 | Oct 18-Sep 18 | 12 Oct | 19 Oct | 26 Oct | 02 Nov | 09 Nov |
| **NW Europe** | | | | | | | | | | |
| Brent (Cracking) | 5.19 | 7.51 | 4.04 | 2.02 | -2.02 | 1.83 | 1.50 | 2.12 | 4.52 | 5.85 |
| Urals (Cracking) | 6.63 | 7.77 | 4.48 | 4.39 | -0.09 | 4.10 | 4.64 | 4.88 | 5.84 | 6.84 |
| Brent (Hydroskimming) | 1.09 | 2.78 | -0.63 | -0.93 | -0.30 | -1.33 | -1.31 | -0.13 | 2.06 | 3.65 |
| Urals (Hydroskimming) | 2.14 | 2.58 | -0.71 | 0.89 | 1.60 | 0.45 | 1.31 | 1.98 | 2.64 | 3.84 |
| **Mediterranean** | | | | | | | | | | |
| Es Sider (Cracking) | 7.69 | 9.89 | 6.10 | 5.13 | -0.97 | 4.73 | 4.95 | 5.72 | 7.88 | 9.71 |
| Urals (Cracking) | 6.86 | 8.67 | 4.74 | 5.18 | 0.44 | 4.50 | 4.60 | 6.59 | 7.89 | 9.46 |
| Es Sider (Hydroskimming) | 3.98 | 5.70 | 1.68 | 1.47 | -0.21 | 0.84 | 1.35 | 2.60 | 4.60 | 6.51 |
| Urals (Hydroskimming) | 2.09 | 3.31 | -0.94 | 0.19 | 1.13 | -0.62 | -0.25 | 2.04 | 3.08 | 4.68 |
| **US Gulf Coast** | | | | | | | | | | |
| 50/50 HLS/LLS (Cracking) | 11.34 | 10.45 | 6.56 | 4.66 | -1.90 | 4.48 | 4.19 | 4.33 | 4.32 | 4.37 |
| Mars (Cracking) | 7.24 | 5.43 | 1.79 | 0.69 | -1.10 | 0.30 | 0.83 | 0.66 | 1.01 | 1.38 |
| ASCI (Cracking) | 6.91 | 5.13 | 1.47 | 0.50 | -0.97 | -0.08 | 0.73 | 0.63 | 0.89 | 1.31 |
| 50/50 HLS/LLS (Coking) | 12.62 | 12.00 | 8.33 | 6.01 | -2.33 | 6.03 | 5.45 | 5.42 | 5.23 | 5.09 |
| 50/50 Maya/Mars (Coking) | 9.11 | 10.16 | 5.82 | 1.28 | -4.53 | 2.00 | 0.71 | 0.07 | 0.14 | 0.06 |
| ASCI (Coking) | 10.67 | 10.04 | 6.36 | 4.41 | -1.95 | 4.25 | 4.44 | 3.94 | 4.04 | 4.27 |
| **US Midwest** | | | | | | | | | | |
| WTI (Cracking) | 14.49 | 16.73 | 16.59 | 13.09 | -3.49 | 12.19 | 12.07 | 13.23 | 14.15 | 12.89 |
| 30/70 WCS/Bakken (Cracking) | 19.28 | 22.11 | 23.40 | 27.60 | 4.20 | 28.69 | 26.97 | 26.51 | 33.03 | 31.62 |
| Bakken (Cracking) | 17.62 | 20.27 | 20.60 | 21.81 | 1.21 | 22.06 | 20.83 | 19.91 | 29.20 | 27.49 |
| WTI (Coking) | 16.11 | 18.62 | 18.77 | 14.70 | -4.07 | 13.91 | 13.54 | 14.64 | 15.43 | 13.91 |
| 30/70 WCS/Bakken (Coking) | 21.87 | 25.44 | 26.76 | 30.18 | 3.43 | 31.43 | 29.41 | 28.82 | 35.29 | 33.73 |
| Bakken (Coking) | 18.15 | 20.93 | 21.40 | 22.27 | 0.87 | 22.58 | 21.21 | 20.26 | 29.52 | 27.67 |
| **Singapore** | | | | | | | | | | |
| Dubai (Hydroskimming) | 1.05 | 1.55 | 0.13 | 0.99 | 0.86 | 0.37 | 1.00 | 1.93 | 2.23 | 2.57 |
| Tapis (Hydroskimming) | 2.23 | 3.99 | 1.34 | 0.82 | -0.53 | 0.75 | 0.83 | 1.26 | 3.30 | 3.46 |
| Dubai (Hydrocracking) | 4.25 | 5.55 | 4.91 | 4.56 | -0.35 | 4.31 | 4.42 | 5.08 | 4.65 | 4.09 |
| Tapis (Hydrocracking) | 4.78 | 7.11 | 5.08 | 3.65 | -1.44 | 3.89 | 3.50 | 3.74 | 5.22 | 4.59 |

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)

On the other hand, light distillates (gasoline and naphtha) suffered especially badly, with gasoline cracks vs sweet crudes testing negative levels in all three regions. North West Europe naphtha cracks reached parity with high sulphur fuel oil and were priced below low sulphur fuel oil. For two days, European gasoline cracks vs Brent priced below Singapore LSFO cracks vs sweet crude Tapis. While record high US refining activity, with a gasoline yield close to 45%, has been blamed for the oversupply of gasoline in global markets, lacklustre demand has played an even bigger role. Our estimate for global gasoline demand growth this year is a puny 80 kb/d, the lowest annual level since 2011. Moreover, in the wider light distillates complex, this is completely offset by a similar decline in naphtha demand, while an annual increase in bioethanol production means that the demand for refinery gasoline has in fact declined.

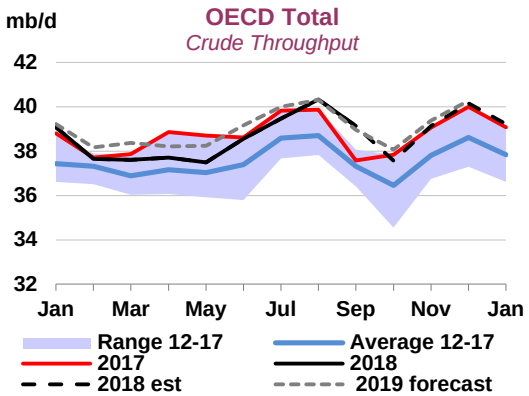


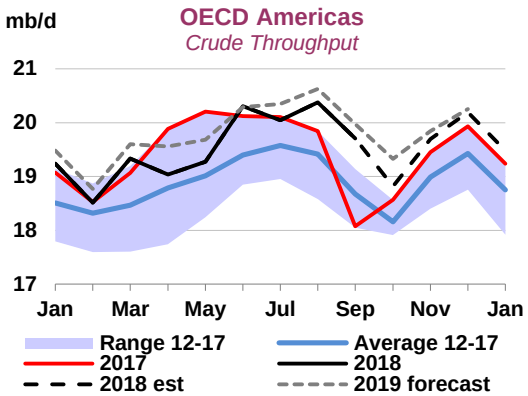




The combination of higher oil prices and the underlying trend of efficiency improvements as well as modal changes and electric vehicle penetration are slowly but surely eroding gasoline demand. The IEA's *World Energy Outlook 2018* sees gasoline demand reaching a peak in the late 2020s in the New Policies Scenario.

## OECD refinery throughput

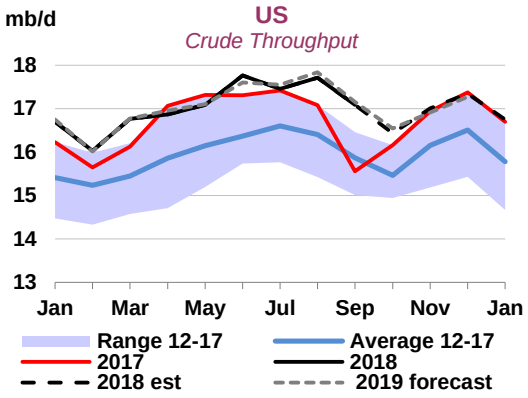
OECD throughput declined 1.2 mb/d m-o-m in September, although Europe outperformed our expectations. 3Q18 throughput is finalised 70 kb/d higher than expected, but our 4Q18 forecast is lowered by 260 kb/d on reduced activity in Canada and Mexico. In 2019, runs are expected to grow by 370 kb/d y-o-y, after 2018's 70 kb/d decline.

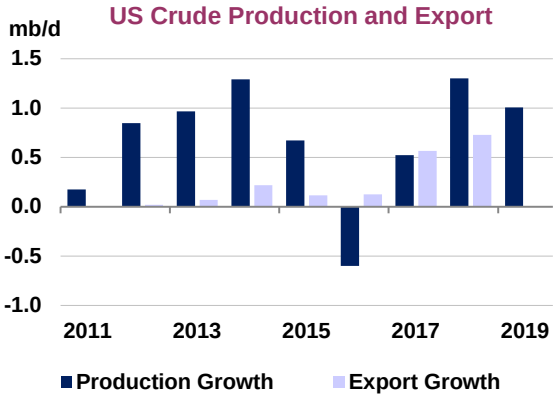


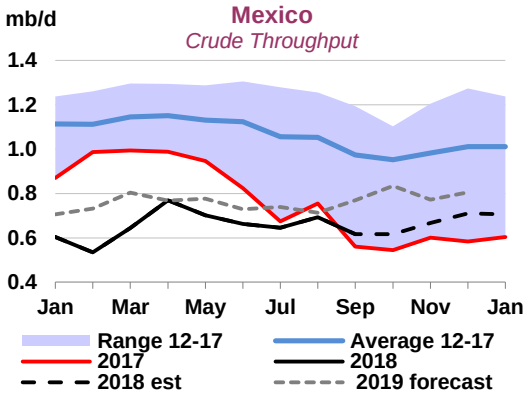

In the **US,** October throughput declined 650 kb/d m-o-m, as expected, although the extent of actual maintenance, especially in PADD 2 (US Midwest), significantly exceeded announced outages. In terms of offline capacity, October's average of 2.2 mb/d was the highest in a decade, excluding hurricane impacts. PADD 2 utilisation rates dropped from 98-100% to 70-74% on numerous shutdowns.

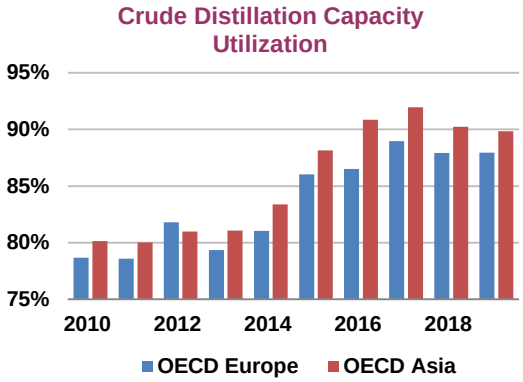
The US remains the largest source of crude output growth (see *Supply*). In 2018, January-October crude exports increased by half as much as the production growth (0.7 mb/d vs 1.3 mb/d), as refinery throughput increased by 400 kb/d. In 2019, our US refinery throughput forecast remains flat y-o-y, implying the need to export almost all of the expected 1 mb/d incremental US crude output, assuming US refiners maintain their crude slate unchanged. Next year, planned changes to the ethanol blending mandate could result in a lower market share for refinery gasoline, although the impact will likely take some time to materialise.



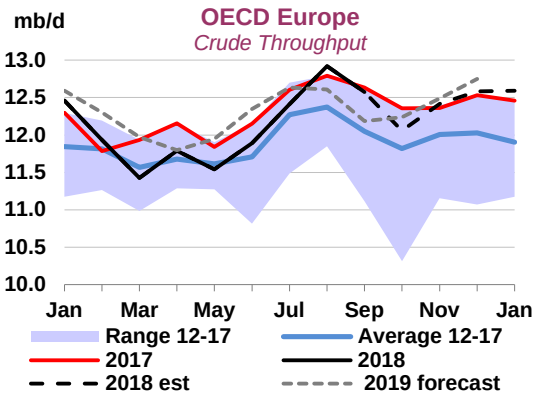

**Mexican** throughput slipped again in September, to just 600 kb/d, the lowest level since February. Pemex has reportedly started importing US light sweet crude cargoes to run at its Salina Cruz refinery. The president-elect Andrés Manuel López Obrador has announced that almost $1 billion will be invested in upgrading Mexican refineries. According to Pemex, the optimal level of runs is 1 mb/d, given the refinery configuration and recent developments in crude production. This implies utilisation rates of only 60% on average, covering just half of Mexican demand.

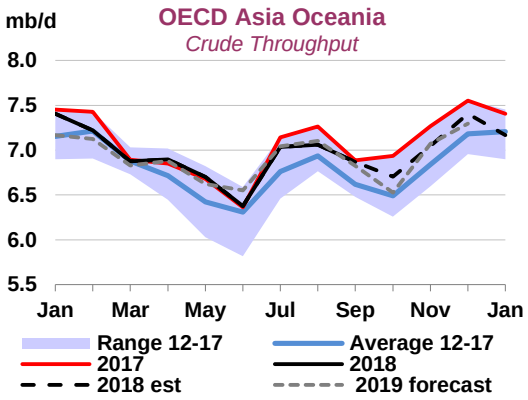



In terms of utilisation rates, OECD Europe and Asia, having seen steady growth since 2013, will register declines this year, as throughput growth turns negative. These two regions will make only a minimal contribution to the 1.2 mb/d growth in global throughput expected next year as China, the Middle East and North America drive the increase.

September preliminary data for **OECD Europe** were surprisingly robust, given the abundance of accident-related outages. Throughput declined only some 340 kb/d m-o-m. Still, 3Q18 throughput did not break with the year to date trend of annual decline, with runs 40 kb/d below year earlier levels. In 4Q18, throughput is expected to decline 280 kb/d q-o-q, but November-December runs are now expected to be on the rise after maintenance shutdowns peaked in October.




**OECD Asia** September runs declined seasonally by 200 kb/d, and were scheduled for higher maintenance outages in October before ramping up in November for the heating season. Both Japan and Korea were granted waivers by the US to continue imports of Iranian crude and condensate, easing feedstock supply concerns.

**Refinery Crude Throughput and Utilisation in OECD Countries**

(million barrels per day)

| | | | | | | | Change from | | Utilisation rate[1] | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Apr 18 | May 18 | Jun 18 | Jul 18 | Aug 18 | Sep 18 | *Aug 18* | *Sep 17* | Sep 18 | Sep 17 |
| US[2] | 16.77 | 16.99 | 17.67 | 17.36 | 17.61 | 16.98 | -0.63 | 1.52 | 89% | 82% |
| Canada | 1.22 | 1.33 | 1.71 | 1.78 | 1.79 | 1.83 | 0.04 | 0.05 | 91% | 92% |
| Chile | 0.20 | 0.16 | 0.18 | 0.18 | 0.19 | 0.19 | 0.00 | 0.00 | 86% | 86% |
| Mexico | 0.76 | 0.69 | 0.65 | 0.64 | 0.68 | 0.61 | -0.08 | 0.06 | 37% | 33% |
| **OECD Americas[3]** | **18.94** | **19.18** | **20.21** | **19.95** | **20.28** | **19.61** | **-0.67** | **1.63** | **86%** | **79%** |
| France | 0.99 | 0.78 | 1.04 | 1.18 | 1.22 | 1.24 | 0.02 | 0.00 | 100% | 100% |
| Germany | 1.83 | 1.83 | 1.93 | 1.90 | 1.89 | 1.79 | -0.11 | -0.24 | 88% | 101% |
| Italy | 1.38 | 1.34 | 1.28 | 1.33 | 1.44 | 1.35 | -0.09 | -0.10 | 78% | 83% |
| Netherlands | 1.12 | 1.09 | 1.07 | 1.08 | 1.13 | 1.18 | 0.05 | 0.07 | 91% | 86% |
| Spain | 1.38 | 1.35 | 1.21 | 1.30 | 1.47 | 1.38 | -0.08 | -0.03 | 98% | 100% |
| United Kingdom | 1.07 | 0.98 | 1.07 | 1.09 | 1.17 | 1.15 | -0.02 | 0.00 | 91% | 91% |
| Other OECD Europe | 4.00 | 4.17 | 4.27 | 4.53 | 4.60 | 4.48 | -0.12 | 0.23 | 93% | 88% |
| **OECD Europe** | **11.78** | **11.53** | **11.88** | **12.40** | **12.91** | **12.57** | **-0.34** | **-0.06** | **91%** | **91%** |
| Japan | 3.16 | 2.83 | 2.53 | 2.97 | 3.22 | 3.02 | -0.20 | -0.14 | 85% | 89% |
| South Korea | 2.93 | 3.13 | 3.03 | 3.15 | 2.97 | 2.98 | 0.01 | 0.09 | 94% | 91% |
| Other Asia Oceania | 0.79 | 0.73 | 0.81 | 0.90 | 0.87 | 0.86 | -0.01 | 0.03 | 99% | 95% |
| **OECD Asia Oceania** | **6.89** | **6.69** | **6.37** | **7.03** | **7.05** | **6.86** | **-0.19** | **-0.02** | **90%** | **91%** |
| **OECD Total** | **37.61** | **37.40** | **38.46** | **39.38** | **40.24** | **39.03** | **-1.20** | **1.55** | **88%** | **85%** |

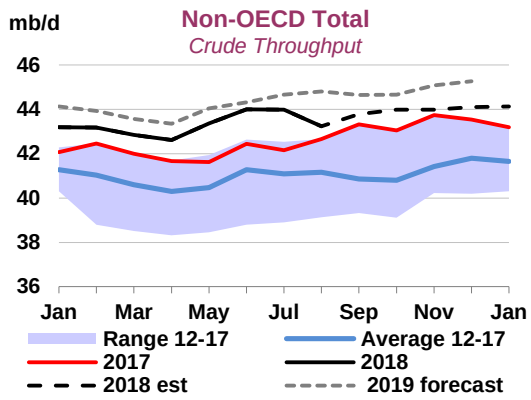
[1] Expressed as a percentage, based on crude throughput and current operable refining capacity

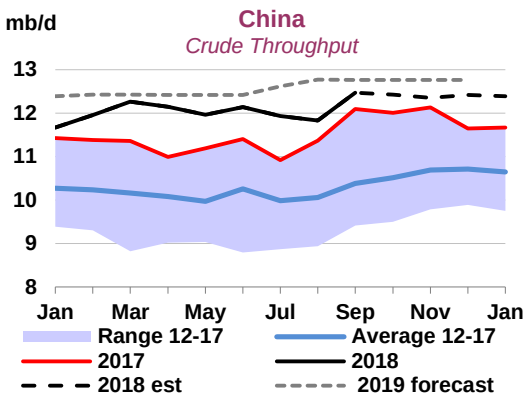
[2] US50

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

## Non-OECD refinery throughput

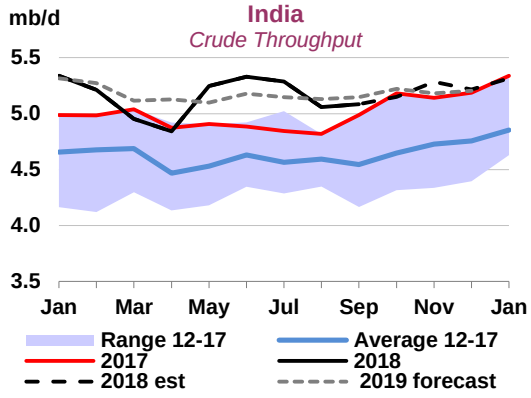
For 3Q18, non-OECD throughput has been revised up by 120 kb/d on stronger performance in the Middle East in August and China in September. **Chinese** refinery throughput reached a new record high of 12.4 mb/d in September, up by 640 kb/d m-o-m in its usual step change fashion. Shandong, the largest refining province, saw throughput increase by 150 kb/d m-o-m to just under 2.7 mb/d, but below its record level. Liaoning, the second-largest refining hub, increased processing to a record high of 1.7 mb/d.

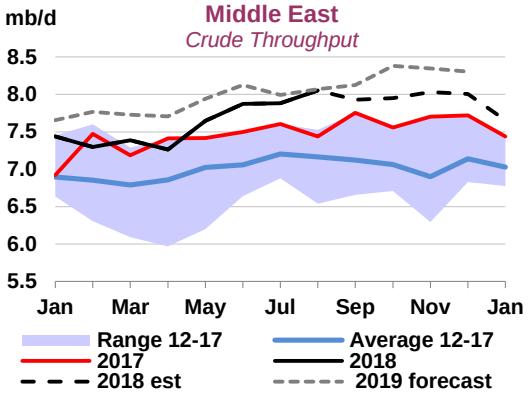



In October, China's Ministry of Commerce issued additional product export quotas, bringing the total 2018 level up to 60 kb/d higher than in 2017. At the same time, in the first three quarters of 2018 Chinese refining throughput increased by almost 700 kb/d y-o-y. Saudi Aramco purchased its first stake in an independent refining project in China, securing a 9% stockholding in Rongsheng Petrochemical's Zhejiang refinery. It also signed a 100 kb/d crude supply agreement for the 400 kb/d refinery that is expected to start up next year. In 2019, throughput in China is forecast to grow by 450 kb/d, after 630 kb/d in 2018.

**Indian** refining performance has been relatively underwhelming recently, compared to the surge in 2Q18, partly due to maintenance. **Indonesia** reported runs for June-August, which came in 90 kb/d lower than our estimates. Overall, annual growth in Other Asia flattened in 3Q18, but is expected to resume in 4Q18, averaging 220 kb/d for the year.

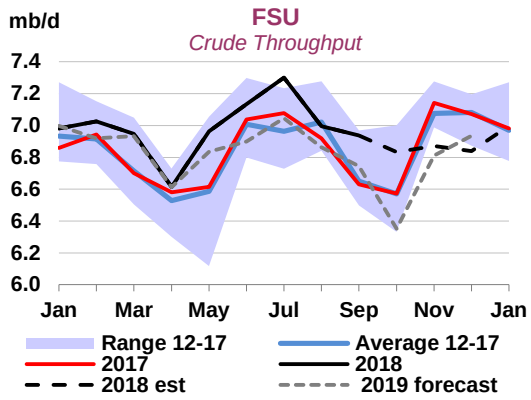


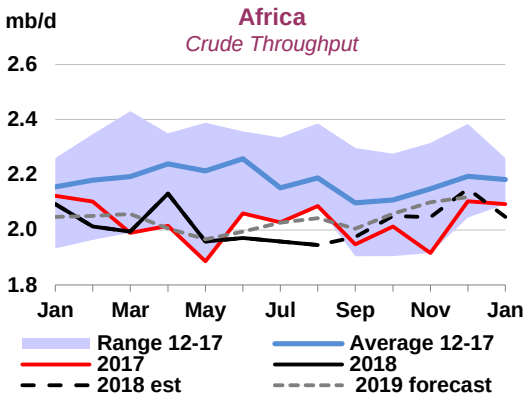




**Middle East** throughput, based on limited reporting and estimates, reached a new record above 8 mb/d in August, up 600 kb/d y-o-y. We revised up our estimate of **Syrian** throughput by 10-15 kb/d following reports in the media on operating levels at the country's two refineries.

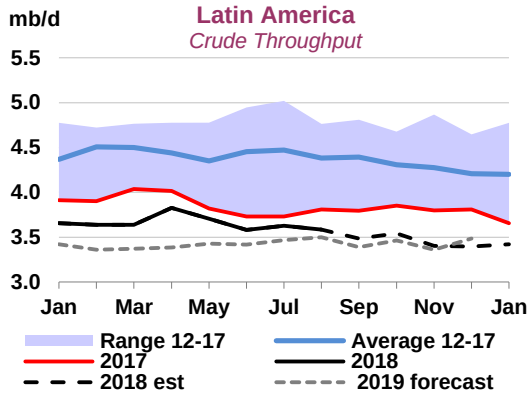
**FSU** refinery runs were actualised higher in September on **Kazakhstan** reaching the highest throughput on record after completing debottlenecking and secondary unit upgrades at its three refineries. **Russian** refiners performed better than expected in October, as crude output reached a new record high. The future is less clear though, with recent talks of possible government sanctions on light product exports to alleviate local product supply and retail price spikes.

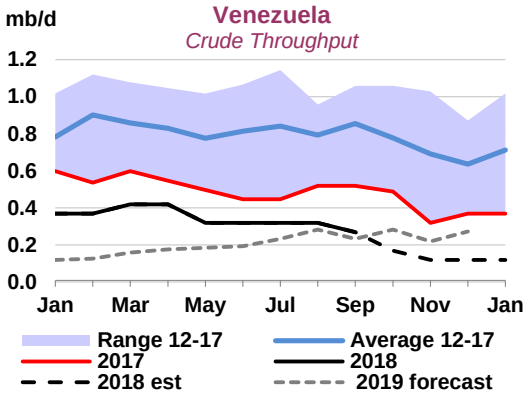
**African** refining throughput continued falling in August, although our estimate is based on only two reported numbers for the whole continent. Both this year and in 2019, throughput is expected to stay flat y-o-y, before long-expected new capacity comes online in Nigeria, Egypt, Uganda and Angola, post-2020.




The situation is similarly pessimistic in Latin America, especially due to **Venezuela**, where capacity utilisation is reportedly below 10%. We have revised throughput estimates downwards for 4Q18 and 2019 by 120 kb/d and 55 kb/d, respectively. **Trinidad's** sole refinery ceased operations quicker than expected, having stopped completely by early November. **Curacao's** government has announced plans to restart the island's 300 kb/d refinery with two unnamed entities, after PDVSA's withdrawal, but we are awaiting further details before incorporating it into our forecast. The regional heavyweight, **Brazil**, saw throughput decline for the second consecutive month, dropping to below 1.7 mb/d for the first time since March.



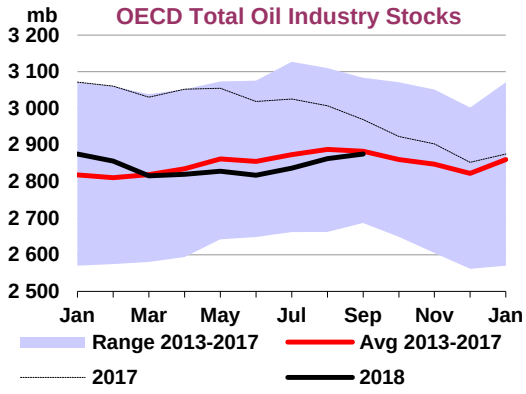



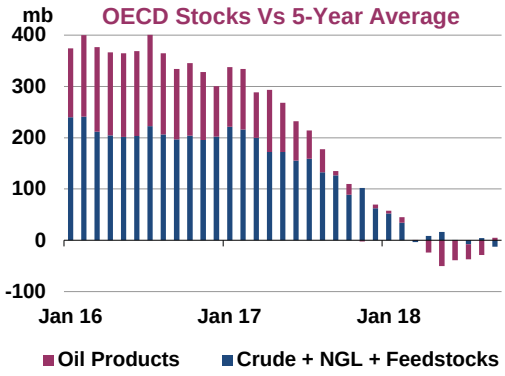
# STOCKS

## Summary

OECD commercial stocks rose counter-seasonally by 12.1 mb month-on-month (m-o-m) in September to 2 875 mb. As in recent months, oil products drove the increase, rising by 21.3 mb to a 14-month high of 1 478 mb. However, this time higher refining activity was not responsible. Instead, the reason was strong LPG restocking in North America, linked to subdued demand for crop drying and a surge in supply, as well as a slowdown in demand for oil products across the OECD. Crude stocks, by contrast, fell by 10.7 mb m-o-m to 1 054 mb, to their lowest level since January 2015, on lower imports from Russia, Saudi Arabia and the UAE. Higher crude production from the US and Canada has so far failed to arrest the downtrend.

September's increase means OECD stocks are now likely to rise above the five-year average when October data is finalised, for the first time since March when OPEC hit its target of reducing stocks to this level. Inventories were just 8 mb below the average at the end of September and preliminary October data show holdings in Europe, Japan and the US up counter-seasonally, even if moderately.




During 3Q18, OECD industry stocks increased by 58.1 mb (630 kb/d), the largest quarterly gain in three years. The Americas region was largely responsible, contributing an increase of 59.9 mb. OECD middle distillate inventories rose by a significant 49.5 mb, followed by other products (+37.6 mb) while gasoline stocks drew much less than the norm (-0.7 mb). All this was the result of record high refinery runs in the US (with utilisation reaching 95% during the quarter) amid strong demand for product exports and lower crude prices. Periods of high refinery activity usually result in crude stock draws, even if, higher production in Canada and the US limited the effect this year. Crude inventories fell 35.3 mb, compared with 49.4 mb a year ago.

**3Q18 v 2Q18 Stock Estimate**

| | mb | mb/d |
|---|---|---|
| Americas Commercial | 59.9 | 0.7 |
| Asia Oceania Commercial | 9.2 | 0.1 |
| Europe Commercial | -11.1 | -0.1 |
| **Total OECD Commercial** | **58.1** | **0.6** |
| OECD Government Stocks | -4.2 | 0.0 |
| Oil in transit (inc floating storage) | -25.9 | -0.3 |
| Non-OECD Crude (Kayrros) | -11.8 | -0.1 |
| Non-OECD Products (JODI - August) | 7.5 | 0.1 |
| Fujairah (FEDCom/S&P Global Platts) | -0.8 | 0.0 |
| Singapore (International Enterprise) | 0.0 | 0.0 |
| **Total** | **22.8** | **0.2** |

Outside the OECD, crude stocks are likely to have fallen amid higher refinery runs. Figures available from *Kayrros* for 47 countries show an overall 11.8 mb drop in non-OECD crude stocks during 3Q18, while *JODI* data for non-OECD NGL and product stocks point to a moderate 7.5 mb gain up until the end of August. We also estimate that seaborne oil in transit volumes were down 25.9 mb during the quarter, due to lower crude exports from Iran and Angola as well as reduced fuel oil exports from European and Middle Eastern refiners to Southeast Asia, using *Refinitiv* (formerly Reuters) data.

In all, we estimate, based on available data, that global oil stocks increased by 22.8 mb (250 kb/d) during 3Q18. This compares with a build of 890 kb/d in our balances, implying that oil stocks are likely to have risen by 640 kb/d in non-OECD countries not represented in the above table. In practice, this is likely to have occurred largely in oil product stocks, owing to the global increase in refinery runs during 3Q18.

**Preliminary Industry Stock Change in September 2018 and Third Quarter 2018**

| | September 2018 (preliminary) (million barrels) | | | | September 2018 (preliminary) (million barrels per day) | | | | Third Quarter 2018 (million barrels per day) | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Am | Europe | As. Ocean | Total | Am | Europe | As. Ocean | Total | Am | Europe | As. Ocean | Total |
| **Crude Oil** | **7.6** | **-7.9** | **-10.4** | **-10.7** | **0.25** | **-0.26** | **-0.35** | **-0.36** | **0.00** | **-0.23** | **-0.16** | **-0.38** |
| Gasoline | -1.2 | -0.3 | 1.0 | -0.4 | -0.04 | -0.01 | 0.03 | -0.01 | -0.01 | -0.01 | 0.01 | -0.01 |
| Middle Distillates | 5.2 | -2.0 | 4.1 | 7.3 | 0.17 | -0.07 | 0.14 | 0.24 | 0.21 | 0.20 | 0.13 | 0.54 |
| Residual Fuel Oil | 0.9 | -1.5 | 0.5 | -0.1 | 0.03 | -0.05 | 0.02 | 0.00 | 0.00 | -0.02 | -0.01 | -0.03 |
| Other Products | 8.6 | -0.1 | 6.1 | 14.6 | 0.29 | 0.00 | 0.20 | 0.49 | 0.31 | 0.00 | 0.10 | 0.41 |
| **Total Products** | **13.4** | **-3.9** | **11.8** | **21.3** | **0.45** | **-0.13** | **0.39** | **0.71** | **0.51** | **0.18** | **0.22** | **0.90** |
| Other Oils[1] | 5.0 | -2.7 | -0.8 | 1.6 | 0.17 | -0.09 | -0.03 | 0.05 | 0.14 | -0.07 | 0.04 | 0.11 |
| **Total Oil** | **26.0** | **-14.4** | **0.6** | **12.2** | **0.87** | **-0.48** | **0.02** | **0.41** | **0.65** | **-0.12** | **0.10** | **0.63** |

1 Other oils includes NGLs, feedstocks and other hydrocarbons.

For August, OECD inventories were revised up by 9.5 mb. The largest revisions were in Europe and the Americas, whereas in Asia Oceania the number was reduced. For July, OECD stocks were revised down.

**Revisions versus October 2018 Oil Market Report**

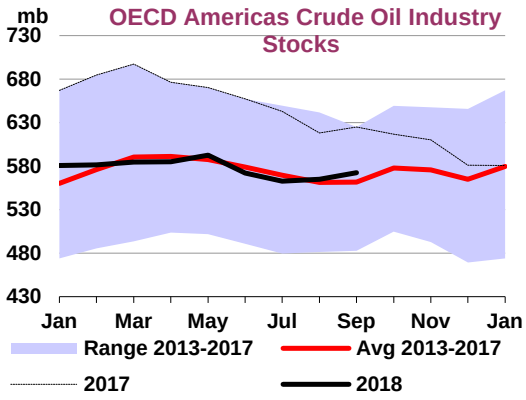
(million barrels)

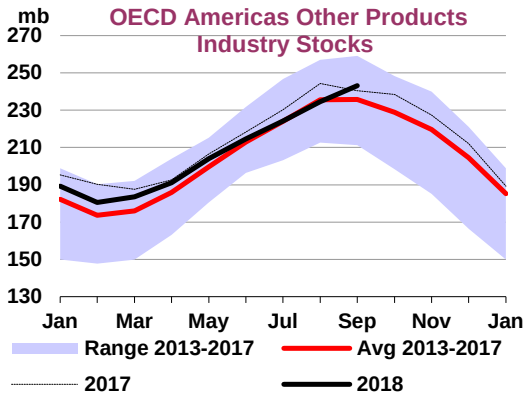
| | *Americas* | | *Europe* | | *Asia Oceania* | | *OECD* | |
|---|---|---|---|---|---|---|---|---|
| | Jul-18 | Aug-18 | Jul-18 | Aug-18 | Jul-18 | Aug-18 | Jul-18 | Aug-18 |
| **Crude Oil** | **-1.3** | **10.2** | **-1.0** | **2.0** | **0.0** | **-3.5** | **-2.3** | **8.7** |
| Gasoline | -0.1 | -0.4 | 0.2 | 0.4 | 0.0 | -0.7 | 0.1 | -0.8 |
| Middle Distillates | 0.0 | -5.5 | -0.1 | 6.1 | 0.0 | -0.7 | -0.1 | 0.0 |
| Residual Fuel Oil | 0.0 | -0.7 | 0.8 | 0.8 | 0.0 | -0.2 | 0.8 | -0.2 |
| Other Products | 0.0 | -5.1 | 0.0 | -1.3 | 0.4 | 0.2 | 0.4 | -6.2 |
| **Total Products** | **-0.1** | **-11.8** | **0.9** | **6.0** | **0.4** | **-1.4** | **1.2** | **-7.2** |
| Other Oils[1] | 0.0 | 7.9 | -0.1 | 0.2 | 0.0 | 0.0 | -0.1 | 8.0 |
| **Total Oil** | **-1.4** | **6.3** | **-0.3** | **8.2** | **0.4** | **-5.0** | **-1.3** | **9.5** |

1 Other oils includes NGLs, feedstocks and other hydrocarbons.

## Recent OECD industry stock changes

### *OECD Americas*

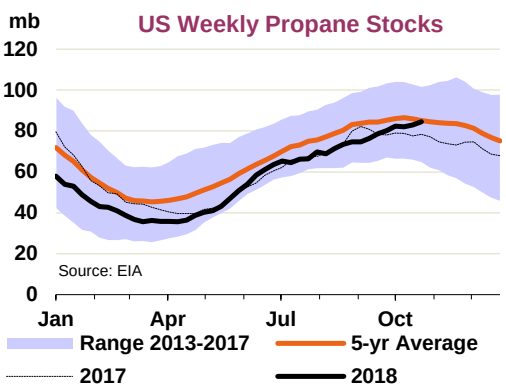


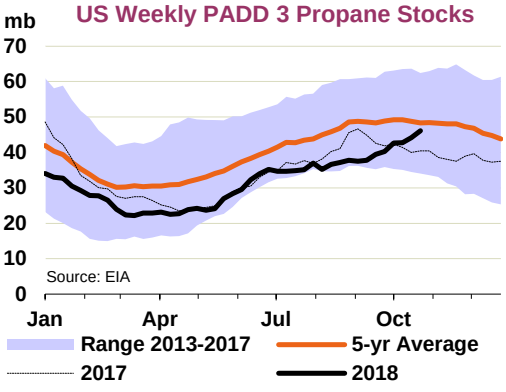




Commercial stocks in OECD Americas increased sharply in September with higher LTO production, continued restocking of propane and lower demand for gasoline in the US, even as refineries reduced runs from the record highs seen in previous months. Stocks were up for the third straight month, by

26 mb, to 1 531 mb. During 3Q18, the region's holdings increased by 59.9 mb, the largest quarterly gain since 2Q14. As a result, inventories in the region are now 33 mb above the five-year average metric.

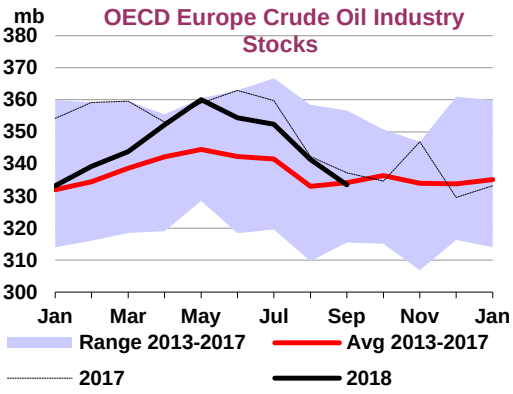
In September, crude stockpiles rose 7.6 mb m-o-m to 573 mb, as some refineries performed seasonal maintenance work. Continued production increases in the LTO sector also helped to boost volumes. US crude exports rose around 370 kb/d to 2.1 mb/d during the month, according to the US Census Bureau. This falls short of the June record of 2.2 mb/d, but remains one of the highest ever US crude export figures. Oil product inventories increased counter-seasonally by 13.4 mb m-o-m in September, despite reduced refining activity. This was driven by a much stronger-than-usual build in 'other product' stocks (largely US propane) of 8.6 mb and an increase in middle distillate stocks of 5.2 mb. The region's oil product stocks stood at 755 mb at end-September, their highest since May 2017.

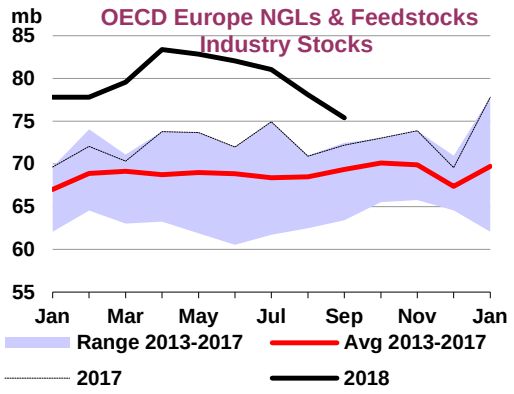



Preliminary October data from the US Energy Information Administration show oil stocks changed little. Crude stocks built by a further 24.5 mb on the back of reduced crude runs at refineries, while fuel oil and propane volumes also both gained. Crude exports were 2.2 mb/d, a small gain from September and equal to the highest ever US crude export figure. Propane stocks increased 4.9 mb m-o-m and were in line with the five-year average, indicating plentiful supplies ahead of the forthcoming winter period. Demand for propane for crop drying in the Midwest has been lacklustre so far this autumn amid warm temperatures, according to market reports. In the Gulf Coast region (PADD 3), propane stocks stood only slightly below the average, a remarkable feat given the very high exports recorded so far in 2018. Gasoline (-8 mb) and diesel inventories (-12.6 mb) both fell heavily.

## *OECD Europe*




In September, commercial stocks in OECD Europe decreased by a stronger-than-seasonal 14.4 mb m-o-m to 947 mb, their lowest level since December 2017. Crude holdings fell 7.9 mb m-o-m to 334 mb, as reduced imports in Germany, Greece and Turkey more than compensated for lower crude intake at

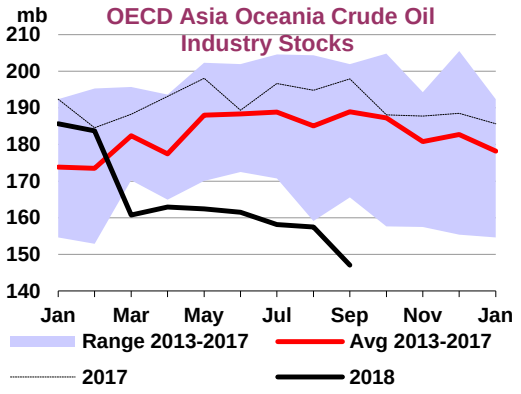
refineries. Europe's NGL and feedstock inventories also declined 2.7 mb to reach 76 mb. They have fallen sizeably in the last few months, after reaching a multi-year high earlier in the year. However, they remained above the five-year average. Oil product stocks decreased across the board, by 3.9 mb overall to 537 mb, due to maintenance work at refineries. Gasoline (-0.3 mb), middle distillates (-2 mb) and fuel oil stocks (-1.5 mb) fell. During 3Q18, total oil stocks declined by 11.1 mb, because of higher refinery runs and higher demand for transportation fuels in the summer season.

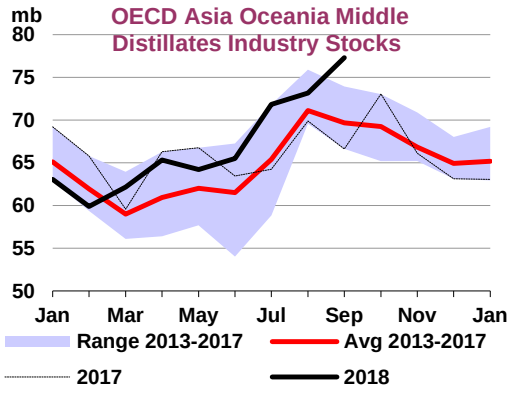
Preliminary October data from *Euroilstock* showed European oil stocks increasing by 3.5 mb m-o-m. Crude holdings built by 3.9 mb, whereas oil products declined by 0.5 mb. Both changes can be attributed to planned refinery maintenance. Middle distillate inventories fell 4.6 mb m-o-m, and all other product inventories gained on the month.

### *OECD Asia Oceania*

Commercial holdings in OECD Asia Oceania were mostly unchanged in September, rising by a mere 0.6 mb m-o-m to 398 mb. However, individual categories moved significantly. Crude stockpiles fell counter-seasonally by 10.4 mb to reach 147 mb, a new historic low. Destocking in Korea has been a major reason for the significant fall in the region's crude stocks so far this year, and this was compounded in September by much lower crude flows from Saudi Arabia, the UAE and Russia into Japan and Korea.

By contrast, oil product inventories went up by 11.8 mb to 185 mb, their highest level in two years. Gains were driven by much higher 'other product' holdings (+6.1 mb to 63 mb) as well as increased middle distillates (+4.1 mb to 77 mb). Interestingly, middle distillate inventories reached their highest level in 11 years at the end of September, helped by disappointing demand. Gasoline inventories increased 1 mb m-o-m to 25 mb. Overall, total oil stocks in OECD Asia Oceania increased 9.2 mb (100 kb/d) during 3Q18, the second consecutive quarterly gain.




Preliminary October data from the Petroleum Association of Japan (PAJ) show an increase in total oil stocks of 6.3 mb. Crude inventories went up 8.3 mb m-o-m as refineries reduced operations due to maintenance work, while oil product stocks went down 2 mb. Gasoline stocks increased 0.6 mb m-o-m, and for the first time this year they stood above the five-year average metric, a sign that the supply situation has stabilised. Kerosene stocks increased 0.9 mb. However, unlike gasoline, they were still below the five-year average even as the high demand season is about to start.

## Other stock developments

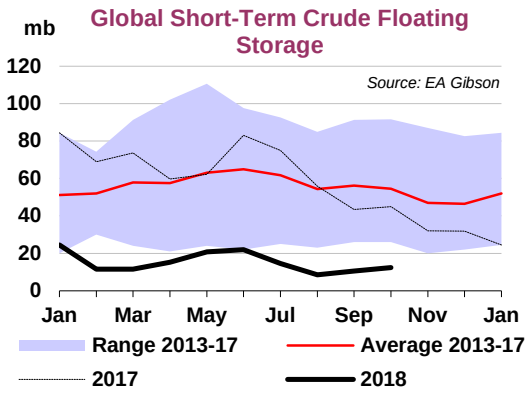
Stockpiles in the 24 non-OECD countries covered by the *JODI* database rose 10 mb m-o-m in August, the latest month for which data is available. Crude stocks were up 0.3 mb with higher volumes recorded in India, the Philippines, Croatia and Nigeria. Crude holdings continued to fall in Saudi Arabia, by 2.8 mb, as

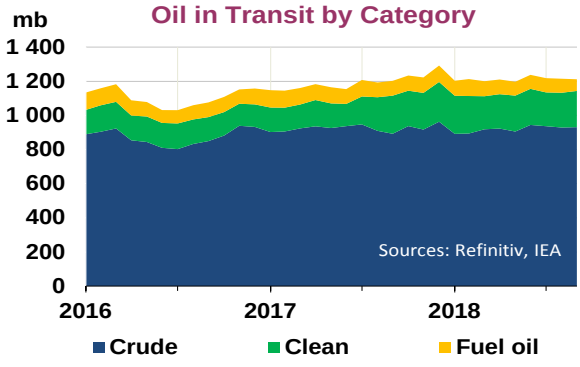
well as in Iraq, Algeria and Chinese Taipei, and elsewhere. Oil product inventories went up 9.6 mb m-o-m with a significant increase of 11.8 mb seen in Nigeria.

Short-term crude floating storage increased by 1.8 mb during October, but remained at historically low levels, according to *EA Gibson*. Most floating volumes were located in the Middle East Gulf ahead of the re-imposition of US sanctions on Iran. However, at 8.5 mb they were stable from last month.

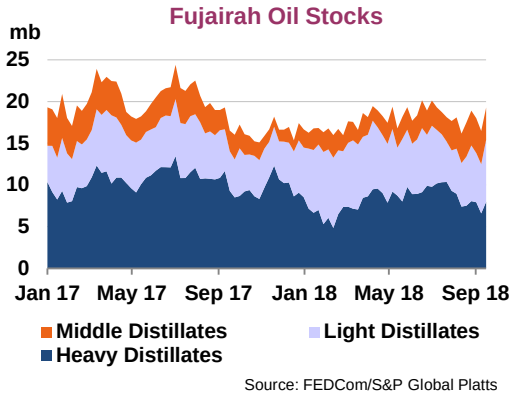
Seaborne oil in transit volumes fell in September by 3.1 mb to 1 212 mb, figures based on *Refinitiv* data and IEA calculations showed. Over 3Q18, volumes fell by 25.9 mb (280 kb/d), as lower crude exports from Iran and Angola exceeded higher volumes from Saudi Arabia, Russia and Iraq. Fuel oil in transit also declined, with lower exports from refiners and much lower arrivals into Singapore, the world's largest bunkering hub. Singaporean fuel oil stocks hit a nine-year low during the quarter. By contrast, clean product flows were stable.

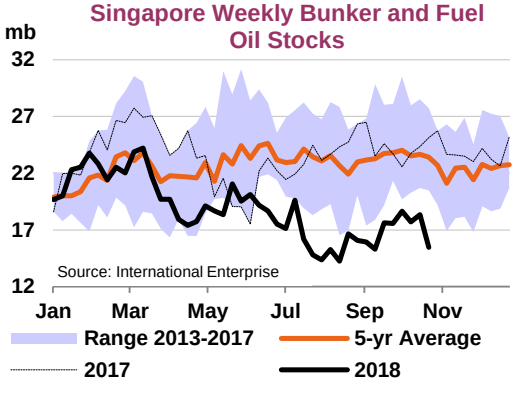
Import figures from Chinese customs as well as estimates for crude production and refinery throughput imply a significant crude stock build of 20 mb during October. However, satellite figures available from Kayrros for 49 locations showed a 14 mb draw during the month. Statistics from *China Oil, Gas and Petrochemicals* were not published for the fifth consecutive month.



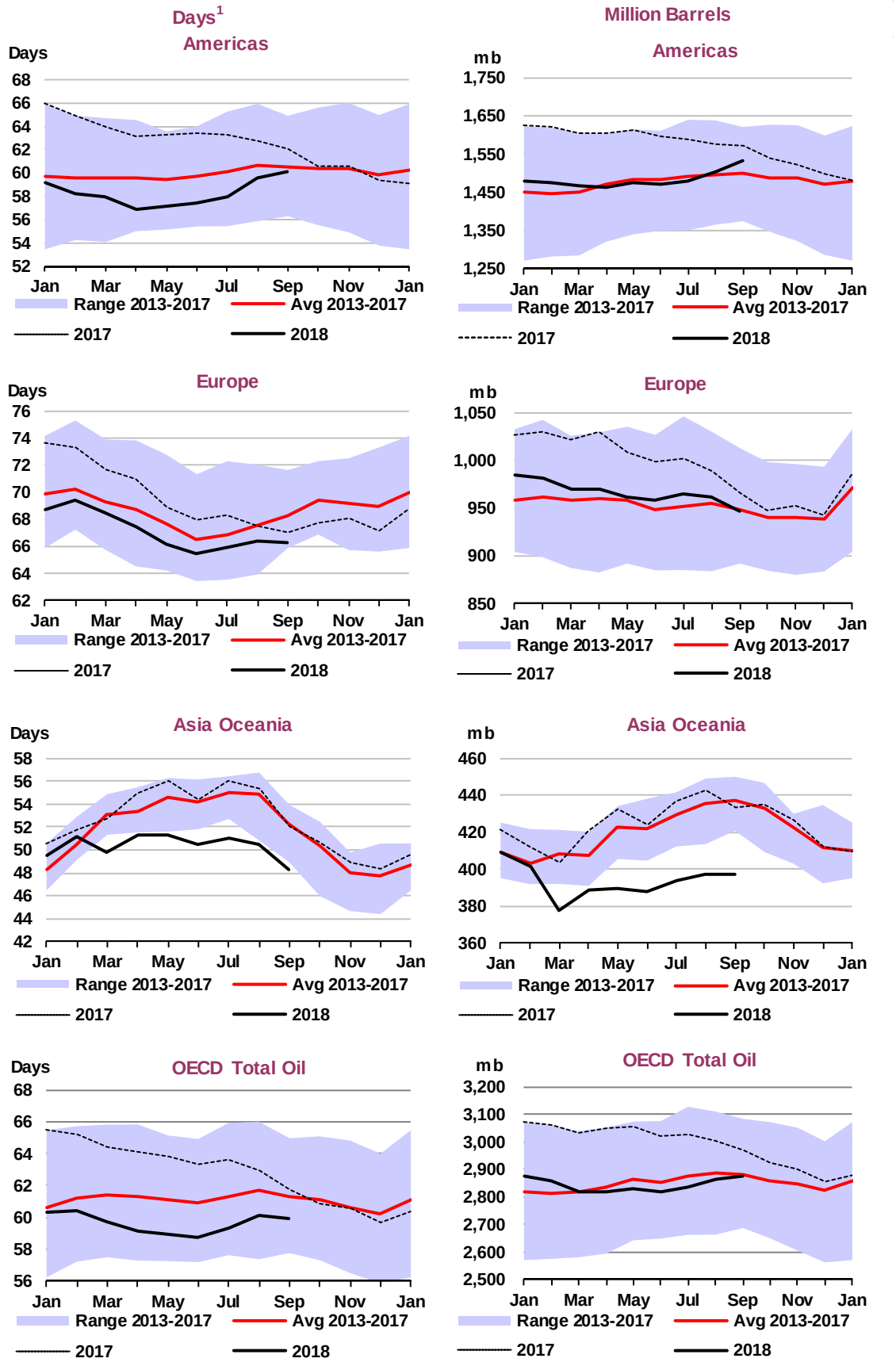

Oil stocks in Fujairah climbed 2 mb m-o-m to 21 mb at end-October, helped by restocking of light (+2.5 mb) and middle distillates (+0.4 mb). Light distillate stocks stood at 10 mb, their highest level since *S&P Global Platts* and *FEDCom* started publishing the data in early 2017. Heavy distillate stocks fell 0.9 mb m-o-m to 7 mb. Singaporean inventories fell 2.5 mb in October, with a 2.1 mb drop in fuel oil and bunker fuel stocks linked to strong marine fuel sales and limited inflows. At 15.5 mb at the end of the month, they were not far above the nine-year low reached in July.



## 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

Falling outright crude prices and futures curves flipping into contango indicate that the market has loosened in the past month. Increases in output from OPEC producers, Russia and the US have more than offset falls in Iran and Venezuela. Concern that oil demand growth may slow due to higher prices and weaker economic growth has also weighed on markets. Furthermore, oil price movements have been closely linked to equity market volatility. In the US and Canada, infrastructure constraints continue to be responsible for large discounts for affected grades. Appetite for Brent-linked crudes was boosted by the relative weakening of the North Sea benchmark compared to Dubai. Gasoline prices fell faster than crude as demand slowed seasonally, while other products, such as diesel and jet fuel, held up better.

## Futures markets

Crude oil futures prices have fallen steeply from the four-year highs seen at the beginning of October. ICE Brent is trading at around $70/bbl, down by over $16/bbl since 3 October. NYMEX WTI has also fallen by over $16/bbl and, at around $60/bbl, is $10/bbl below Brent. Both Brent and WTI futures curves have flipped to a narrow contango with crude for prompt delivery fetching a slight discount to barrels delivered in later months. The changes to the futures curves in the last month suggest that there is less tightness in the market.

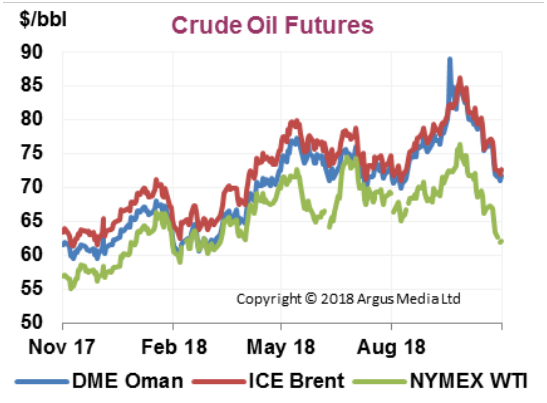
**Prompt Month Oil Futures Prices**

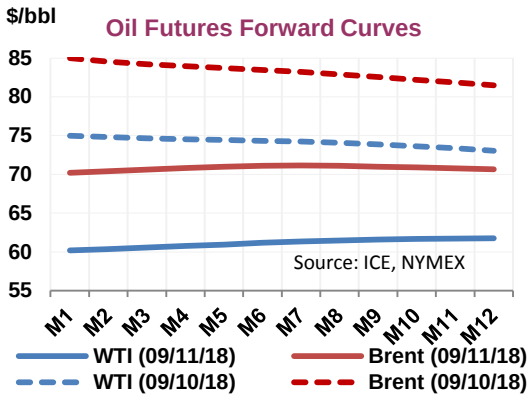
(monthly and weekly averages, $/bbl)

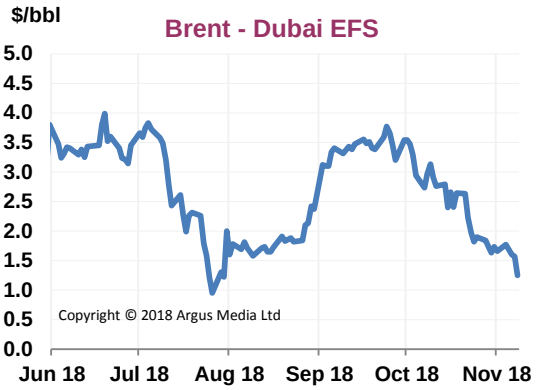
| | Aug | Sep | Oct | Oct-Sep Avg Chg | % Chg | Week Commencing: 08 Oct | 15 Oct | 22 Oct | 29 Oct | 05 Nov |
|---|---|---|---|---|---|---|---|---|---|---|
| **NYMEX** | | | | | | | | | | |
| Light Sweet Crude Oil | 67.85 | 70.08 | 70.76 | 0.68 | 1.0 | 72.95 | 70.24 | 67.47 | 65.07 | 61.57 |
| RBOB | 86.23 | 84.55 | 81.96 | -2.59 | -3.1 | 84.56 | 81.02 | 77.23 | 74.12 | 69.71 |
| ULSD | 90.43 | 94.58 | 98.04 | 3.47 | 3.7 | 99.68 | 97.22 | 95.76 | 93.91 | 92.09 |
| ULSD ($/mmbtu) | 15.95 | 16.68 | 17.29 | 0.61 | 3.7 | 17.58 | 17.15 | 16.89 | 16.56 | 16.24 |
| Henry Hub Natural Gas ($/mmbtu) | 2.91 | 2.90 | 3.21 | 0.31 | 10.8 | 3.24 | 3.25 | 3.18 | 3.23 | 3.59 |
| **ICE** | | | | | | | | | | |
| Brent | 73.84 | 79.11 | 80.63 | 1.52 | 1.9 | 82.54 | 80.26 | 77.39 | 74.89 | 71.64 |
| Gasoil | 88.45 | 92.94 | 96.92 | 3.97 | 4.3 | 98.64 | 95.87 | 95.01 | 93.60 | 91.36 |
| **Prompt Month Differentials** | | | | | | | | | | |
| NYMEX WTI - ICE Brent | -5.99 | -9.03 | -9.87 | -0.84 | | -9.59 | -10.02 | -9.92 | -9.82 | -10.07 |
| NYMEX ULSD - WTI | 22.58 | 24.50 | 27.28 | 2.79 | | 26.73 | 26.98 | 28.29 | 28.84 | 30.52 |
| NYMEX RBOB - WTI | 18.38 | 14.47 | 11.20 | -3.27 | | 11.61 | 10.78 | 9.76 | 9.05 | 8.14 |
| NYMEX 3-2-1 Crack (RBOB) | 19.78 | 17.81 | 16.56 | -1.25 | | 16.65 | 16.18 | 15.93 | 15.64 | 15.60 |
| NYMEX ULSD - Natural Gas ($/mmbtu) | 13.04 | 13.78 | 14.08 | 0.30 | | 14.34 | 13.90 | 13.71 | 13.33 | 12.65 |
| ICE Gasoil - ICE Brent | 14.61 | 13.83 | 16.29 | 2.45 | | 16.10 | 15.61 | 17.62 | 18.71 | 19.72 |

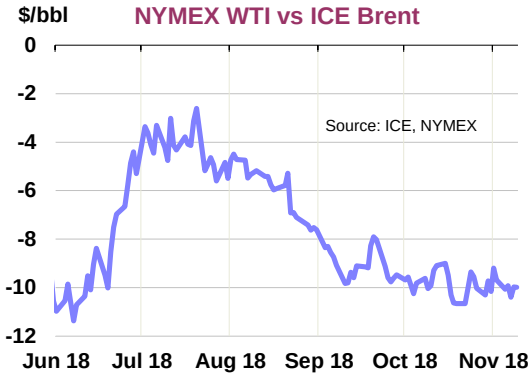
Source: ICE, NYMEX.

Reduced output from Iran supported the Dubai benchmark, which held up better than Brent and WTI. As such, the Brent-Dubai Exchange of Futures for Swaps (EFS), which can indicate the strength of light sweet crudes versus sourer grades, fell by $1.57/bbl over the month. This has improved the competitiveness of Brent-linked crudes in Asia Pacific markets. WTI's discount to Brent widened slightly in October, by $0.84/bbl, to average $9.87/bbl. Enormous US production growth running up against infrastructure constraints is weighing on prices.

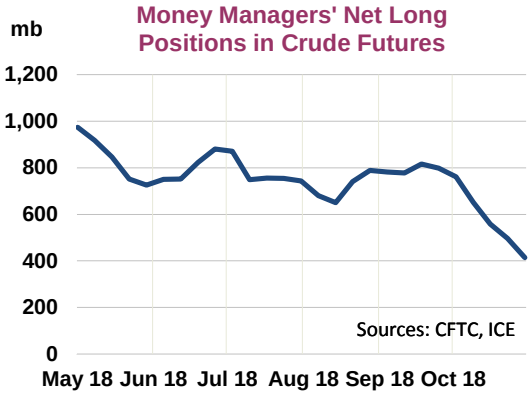


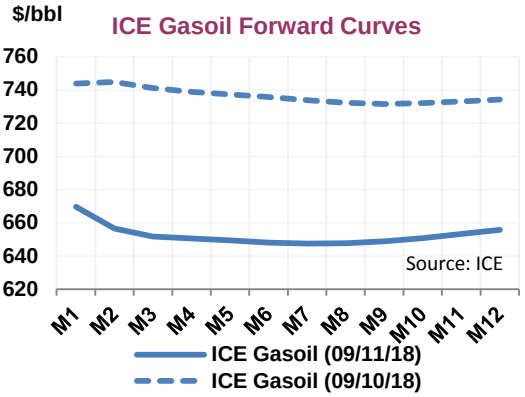




Following a sharp sell-off by hedge funds, net length in combined oil futures contracts declined to 414 million barrels (mb) on 6 November, the lowest since July 2017 and less than half the record level seen earlier this year. This suggests that money managers hold a less bullish view than one month ago but also coincides with a general sell-off of equities which saw indices such as the FTSE 100, Dow Jones Industrial Average and S&P 500 tumble by over 5% in October. Holdings of short positions, i.e. speculative bets that the oil price will fall, have surged to 171 mb, causing the ratio of long to short positions to decline to 3.4:1, having averaged 6:1 for the year so far.

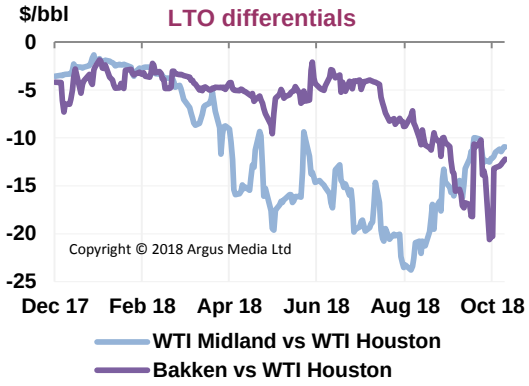


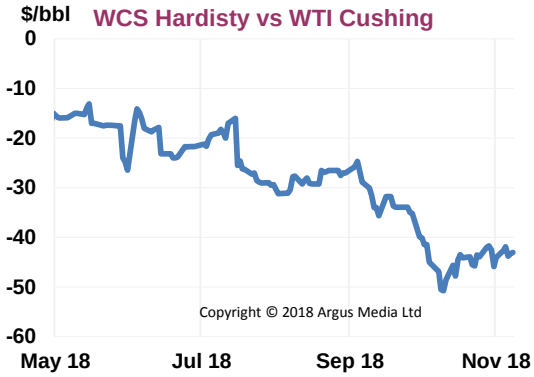




Persistently low Rhine water levels have prevented barge shipments of diesel and gasoil from travelling to demand centres in Germany and Switzerland. This is thought to be a short-term problem and the ICE Gasoil futures curve backwardation has steepened with prompt prices exceeding those for the second month by $10.00/bbl. On the NYMEX, the RBOB gasoline futures curve has flattened as demand declines seasonally, while diesel spreads have become increasingly backwardated reflecting some prompt market tightness. Jet spreads in Northwest Europe flipped to backwardation on 11 October as European markets tightened on reduced imports from Asia Pacific.

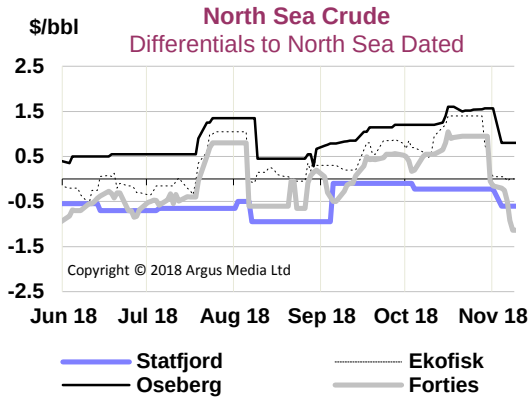
## Spot crude oil prices

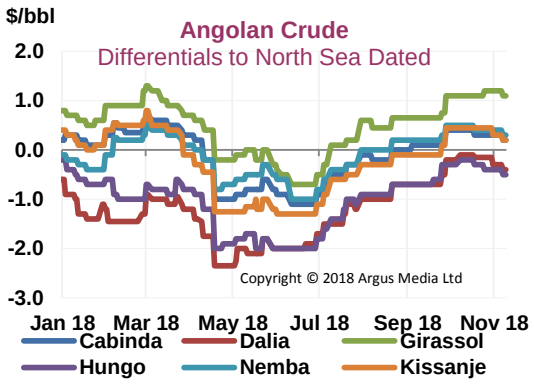
The wide discount of WTI to Brent supported high levels of US crude exports, which averaged 2.2 mb/d in October. However, rising freight rates have weighed on prices at sea export terminals. For example, WTI Houston fell $1.87/bbl against Brent month-on-month (m-o-m). Although Permian Basin crude continued to trade at significant discounts, by an average $6.05/bbl to Cushing and $13.08/bbl to Houston, this has narrowed as demand from US refiners recovered after maintenance was completed. Furthermore, slight relief from pipeline congestion came as the Sunrise pipeline expansion started to fill and other export pipelines return from maintenance. Prices for light tight oil (LTO) from the Bakken play in North Dakota have plummeted, declining by $5.06/bbl against WTI Cushing m-o-m. Recent refinery maintenance in the US Midwest has reduced demand while, as in the Permian Basin, record production growth is beginning to run into pipeline constraints. More Bakken crude is being exported to the US Gulf Coast by rail, a more expensive option that can cost up to $15/bbl.




The Western Canada Select (WCS) discount to WTI Cushing eased slightly from the record level of over $50/bbl seen on 10 October. The discount was $44.48/bbl on average in October. Higher Canadian production and no short-term relief to export infrastructure constraints caused inventories in Alberta to remain near record levels. Furthermore, US midcontinent refineries, which take over half of Canadian exports, have been undergoing heavier-than-usual maintenance this year. The persistent weak prices have led operators such as Canada National Resources Limited and Cenovus, amongst others, to announce possible curtailments of production until prices are more favourable.




Robust demand for North Sea crudes, and the declining Brent-Dubai EFS, saw differentials improve. Forties moved up $0.58/bbl against North Sea Dated m-o-m on strong Asia Pacific demand, in particular from China and South Korea. A rare US purchase of Ekofisk contributed to its $0.50/bbl m-o-m gain against North Sea Dated. In early November, lower gasoline cracks weighed on demand for light sweet crudes. This has offset the impact of reduced supplies as over 300 kb/d production was briefly shut-in following the collision of an oil tanker and navy frigate in the Norwegian waters.

The narrower Brent-Dubai EFS also supported demand for Angolan crude which saw strong buying interest from Asia Pacific where refiners are looking to replace Iranian barrels. Cargoes travelled to China, Japan and Korea. However Indian refiners, who have traditionally purchased some Angolan crude, favored US and Libyan supplies. Prices for Girassol, Kissanje and Dalia gained by $0.43/bbl, $0.49/bbl and $0.50/bbl against North Sea Dated m-o-m, respectively. Prices also drew support from loading schedules which show reduced availability in December. Conversely, an oversupply of Nigerian crudes put pressure on differentials. Key grades Qua Iboe, Bonny Light and Forcados fell by $0.40/bbl, $0.33/bbl and $0.35/bbl against North Sea Dated m-o-m, respectively.

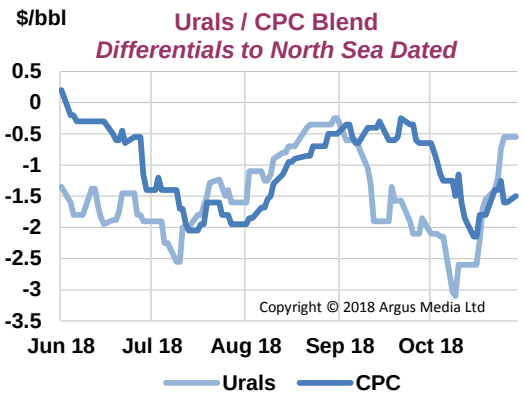
**Spot Crude Oil Prices and Differentials**

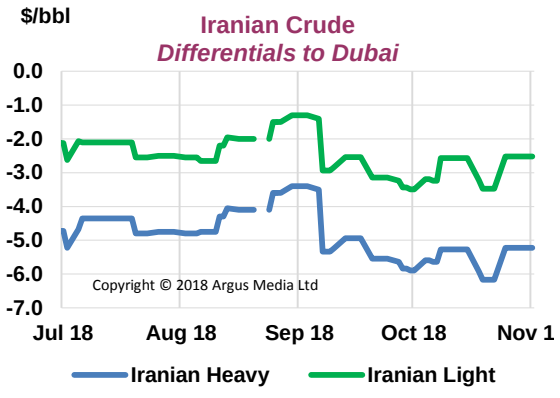
(monthly and weekly averages, $/bbl)

| | Aug | Sep | Oct | Oct-Sep Avg Chg | % | Week Commencing: 08 Oct | 15 Oct | 22 Oct | 29 Oct | 05 Nov |
|---|---|---|---|---|---|---|---|---|---|---|
| **Crudes** | | | | | | | | | | |
| North Sea Dated | 72.55 | 78.80 | 81.12 | 2.33 | 3.0 | 83.06 | 80.64 | 78.14 | 74.36 | 70.05 |
| Brent (Asia) Mth 1 | 74.11 | 79.96 | 81.47 | 1.51 | 1.9 | 83.77 | 81.17 | 78.01 | 75.85 | 72.00 |
| WTI (Cushing) Mth 1 | 67.99 | 70.22 | 70.75 | 0.53 | 0.8 | 72.95 | 70.24 | 67.43 | 65.07 | 61.57 |
| Urals (Mediterranean) | 71.51 | 78.50 | 80.16 | 1.66 | 2.1 | 82.33 | 79.89 | 76.54 | 73.66 | 69.35 |
| Dubai | 72.49 | 77.22 | 79.40 | 2.18 | 2.8 | 81.50 | 78.91 | 76.35 | 74.54 | 70.69 |
| Tapis (Dated) | 72.12 | 79.60 | 81.47 | 1.87 | 2.4 | 84.02 | 80.32 | 77.74 | 73.96 | 68.50 |
| **Differential to North Sea Dated** | | | | | | | | | | |
| WTI (Cushing) | -4.56 | -8.57 | -10.37 | -1.80 | | -10.12 | -10.39 | -10.72 | -9.29 | -8.48 |
| Urals (Mediterranean) | -1.04 | -0.30 | -0.96 | -0.67 | | -0.73 | -0.75 | -1.60 | -0.70 | -0.70 |
| Dubai | -0.05 | -1.57 | -1.72 | -0.15 | | -1.57 | -1.73 | -1.79 | 0.18 | 0.64 |
| Tapis (Dated) | -0.43 | 0.80 | 0.35 | -0.45 | | 0.96 | -0.32 | -0.40 | -0.40 | -1.55 |
| **Prompt Month Differential** | | | | | | | | | | |
| Forward Cash Brent Mth1-Mth2 | -0.37 | 0.38 | 0.39 | 0.02 | | 0.58 | 0.47 | 0.26 | -0.21 | -0.25 |
| Forward WTI Cushing Mth1-Mth2 | 0.80 | 0.34 | 0.03 | -0.31 | | 0.15 | 0.03 | -0.11 | -0.14 | -0.15 |
| Forward Dubai Mth1-Mth2 | 0.12 | 0.74 | 0.73 | -0.01 | | 0.84 | 0.76 | 0.67 | 0.36 | 0.36 |



Urals fell to a five month low on 16 October with barrels trading at a $3.10/bbl discount to North Sea Dated. Weak demand, due to refinery maintenance, and plentiful supplies had pressured differentials. Prices have recently bounced back, and the discount has narrowed to $0.55/bbl, as fuel oil margins have improved, encouraging demand from Asia Pacific and as Russian refineries return from maintenance. Weak light distillate margins dampened demand for CPC Blend, for which prices were down $0.75/bbl m-o-m against North Sea Dated.




Increased supplies from the Middle East Gulf as OPEC countries ramp up production and the narrow Brent-Dubai EFS saw prices for key regional grades fall against benchmark prices. Despite healthy demand from Asia Pacific refiners looking to replace Iranian supplies, Murban and Upper Zakum fell $0.33/bbl and $0.21/bbl m-o-m, respectively. The prices of Iranian Light and Iranian Heavy are down

significantly as official prices were set at a discount to competing grades in an attempt to attract buyers ahead of sanctions.

## Spot product prices

With the exception of gasoline and naphtha, product prices did not match the sharp drop in crude prices and so cracks increased in October. In Europe, low water levels on the Rhine have hampered barge shipments of products to areas of Germany and Switzerland. Alternatives methods of delivery, such as by truck and rail, are more expensive, therefore end-user product prices in Germany have increased.

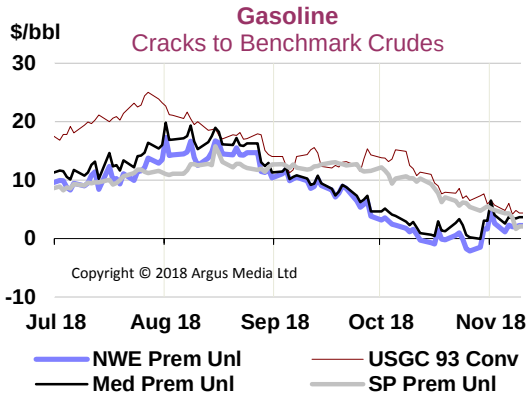
**Spot Product Prices**

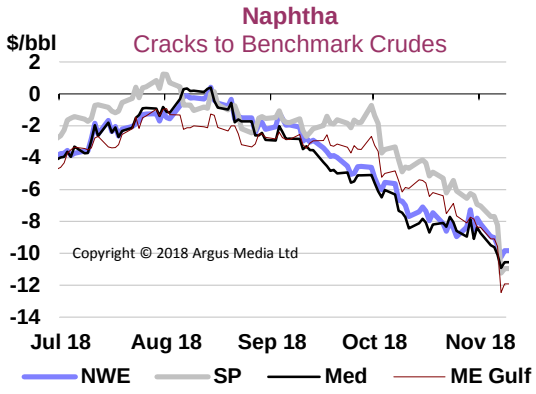
(monthly and weekly averages, $/bbl)

| | Aug | Sep | Oct | Oct-Sep Chg | Oct-Sep % | Week Commencing: 08 Oct | 15 Oct | 22 Oct | 29 Oct | 05 Nov | Aug | Sep | Oct | Chg |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Rotterdam, Barges FOB** | | | | | | | | | | | **Differential to North Sea Dated** | | | |
| Premium Unl 10 ppm | 86.91 | 87.22 | 81.90 | -5.32 | -6.1 | 86.46 | 87.26 | 87.98 | 83.67 | 80.19 | 14.36 | 8.42 | 0.77 | -7.65 |
| Naphtha | 75.63 | 70.71 | 71.83 | 1.12 | 1.6 | 74.94 | 77.32 | 80.02 | 76.33 | 73.19 | 3.08 | -8.09 | -9.29 | -1.20 |
| Jet/Kerosene | 87.63 | 91.82 | 96.76 | 4.94 | 5.4 | 90.91 | 94.74 | 99.27 | 97.92 | 95.94 | 15.08 | 13.02 | 15.64 | 2.62 |
| ULSD 10ppm | 88.49 | 92.86 | 97.18 | 4.31 | 4.6 | 91.74 | 95.54 | 99.29 | 98.37 | 96.32 | 15.94 | 14.07 | 16.06 | 1.99 |
| Gasoil 0.1% | 86.52 | 91.42 | 95.32 | 3.90 | 4.3 | 90.33 | 94.28 | 98.21 | 96.68 | 94.32 | 13.97 | 12.63 | 14.20 | 1.57 |
| LSFO 1% | 66.02 | 68.40 | 74.03 | 5.63 | 8.2 | 68.03 | 71.26 | 75.17 | 75.05 | 73.55 | -6.53 | -10.40 | -7.09 | 3.30 |
| HSFO 3.5% | 64.51 | 66.70 | 71.80 | 5.10 | 7.7 | 66.33 | 69.46 | 73.39 | 73.13 | 71.42 | -8.04 | -12.10 | -9.32 | 2.78 |
| **Mediterranean, FOB Cargoes** | | | | | | | | | | | **Differential to Urals** | | | |
| Premium Unl 10 ppm | 87.77 | 87.40 | 82.53 | -4.87 | -5.6 | 87.02 | 87.82 | 88.97 | 84.49 | 81.20 | 16.26 | 8.90 | 2.37 | -6.53 |
| Naphtha | 70.61 | 74.54 | 72.58 | -1.96 | -2.6 | 73.97 | 76.17 | 78.66 | 74.88 | 71.70 | -0.91 | -3.96 | -7.57 | -3.62 |
| Jet Aviation fuel | 86.79 | 91.02 | 95.67 | 4.65 | 5.1 | 90.13 | 93.76 | 98.12 | 96.83 | 94.81 | 15.28 | 12.52 | 15.51 | 2.99 |
| ULSD 10ppm | 88.80 | 93.11 | 96.86 | 3.75 | 4.0 | 92.01 | 95.59 | 99.37 | 98.25 | 95.88 | 17.29 | 14.61 | 16.70 | 2.09 |
| Gasoil 0.1% | 87.18 | 91.62 | 95.18 | 3.56 | 3.9 | 90.48 | 94.28 | 97.64 | 96.36 | 94.22 | 15.67 | 13.12 | 15.02 | 1.90 |
| LSFO 1% | 66.98 | 69.32 | 74.90 | 5.59 | 8.1 | 68.95 | 71.99 | 75.59 | 75.45 | 74.30 | -4.53 | -9.19 | -5.26 | 3.93 |
| HSFO 3.5% | 65.46 | 67.65 | 72.47 | 4.81 | 7.1 | 67.32 | 70.18 | 73.79 | 73.52 | 72.06 | -6.05 | -10.85 | -7.69 | 3.15 |
| **US Gulf, FOB Pipeline** | | | | | | | | | | | **Differential to LLS** | | | |
| Super Unleaded | 91.07 | 90.75 | 89.09 | -1.66 | -1.8 | 90.00 | 93.64 | 97.50 | 93.63 | 87.25 | 18.45 | 13.24 | 10.16 | -3.07 |
| Unleaded | 87.14 | 85.20 | 82.76 | -2.44 | -2.9 | 84.79 | 88.04 | 90.79 | 85.87 | 81.42 | 14.51 | 7.68 | 3.83 | -3.86 |
| Jet/Kerosene | 88.88 | 91.85 | 94.48 | 2.63 | 2.9 | 90.51 | 93.77 | 97.56 | 96.18 | 93.74 | 16.25 | 14.33 | 15.55 | 1.22 |
| ULSD 10ppm | 88.77 | 92.74 | 95.85 | 3.11 | 3.4 | 91.75 | 95.27 | 99.13 | 97.67 | 94.98 | 16.14 | 15.22 | 16.92 | 1.70 |
| Heating Oil | 84.60 | 89.11 | 92.78 | 3.67 | 4.1 | 87.80 | 91.97 | 96.14 | 94.38 | 91.96 | 11.98 | 11.59 | 13.85 | 2.26 |
| No. 6 3%* | 62.63 | 65.15 | 69.22 | 4.07 | 6.2 | 65.02 | 67.66 | 70.77 | 69.84 | 69.03 | -10.00 | -12.36 | -9.71 | 2.65 |
| **Singapore, FOB Cargoes** | | | | | | | | | | | **Differential to Dubai** | | | |
| Premium Unleaded | 84.83 | 89.53 | 87.64 | -1.89 | -2.1 | 89.62 | 91.54 | 93.74 | 91.75 | 86.67 | 12.33 | 12.31 | 8.24 | -4.07 |
| Naphtha | 71.76 | 75.39 | 74.90 | -0.49 | -0.6 | 75.08 | 77.90 | 80.65 | 77.18 | 74.35 | -0.74 | -1.84 | -4.50 | -2.66 |
| Jet/Kerosene | 87.31 | 91.75 | 95.16 | 3.41 | 3.7 | 91.09 | 93.83 | 97.20 | 96.83 | 94.65 | 14.82 | 14.53 | 15.76 | 1.23 |
| Gasoil 0.05% | 87.61 | 92.76 | 95.97 | 3.21 | 3.5 | 91.86 | 95.42 | 99.49 | 97.65 | 94.90 | 15.12 | 15.54 | 16.57 | 1.04 |
| LSWR Cracked | 71.30 | 73.20 | 78.90 | 5.70 | 7.8 | 72.85 | 76.17 | 80.21 | 79.94 | 78.87 | -1.19 | -4.02 | -0.50 | 3.52 |
| HSFO 180 CST | 70.79 | 72.42 | 78.68 | 6.26 | 8.6 | 72.17 | 75.70 | 79.71 | 79.63 | 78.69 | -1.71 | -4.80 | -0.72 | 4.08 |
| HSFO 380 CST 4% | 69.68 | 71.68 | 77.83 | 6.15 | 8.6 | 71.50 | 74.73 | 79.13 | 78.72 | 77.58 | -2.81 | -5.54 | -1.57 | 3.97 |

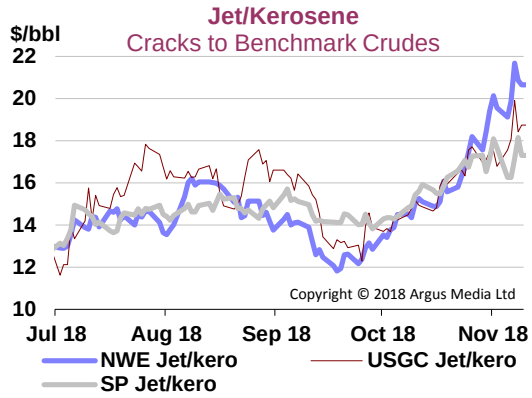
 * Waterborne

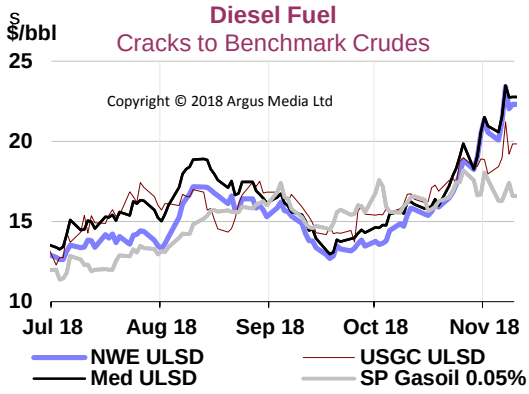
Gasoline prices fell in October, with cracks for premium unleaded in Northwest Europe and the US down $7.65/bbl and $3.07/bbl m-o-m, respectively, against crude prices. Data show that the seasonal slowdown in gasoline demand in Europe and the US has been more pronounced than usual this year. In Europe, cracks went negative for the first time since December 2011 on low driving and petrochemical demand and reduced export opportunities to West Africa and the US. In the US, the market is well supplied and the switch to the cheaper winter-grade specification fuel played its part in lower prices. The price of unleaded gasoline in Singapore was down $1.89/bbl m-o-m, despite reduced exports, as the market anticipated higher supplies from India and the Middle East where refineries are set to return from unscheduled outages.




In October, European naphtha cracks fell in Europe by $1.20/bbl in the Northwest and $3.62/bbl in the Mediterranean as lower demand for gasoline also translated to lower naphtha demand for blending. At the same time, maintenance at some European crackers has reduced petrochemical requirements. Weaker petrochemical margins have also dulled cracking activity in Asia and the US, and refiners are turning to cheaper propane as an alternative feedstock. Cracks are currently at almost four-year lows with Asian naphtha trading at a healthy premium of over $2/bbl to European naphtha on average for October.



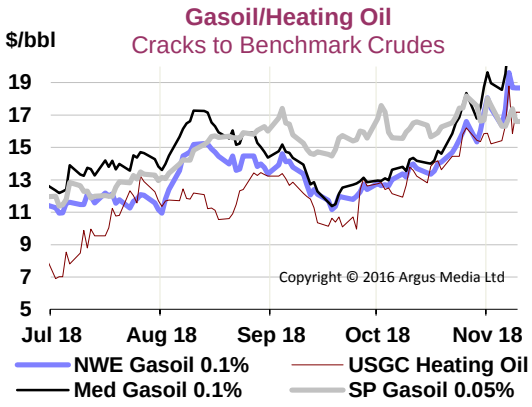

Strong seasonal demand for kerosene in Northeast Asia, where it is used for space heating, saw cracks in Singapore increase by $1.23/bbl m-o-m. Markets have tightened on reduced supplies from Japan due to refinery maintenance but the recent issue of additional export quotas from China may alleviate this. Robust aviation demand towards the end of the year is expected in China and Indonesia. In Europe and the US, cracks moved up by $2.62/bbl and $1.22/bbl m-o-m, respectively, on lower exports from Asia.

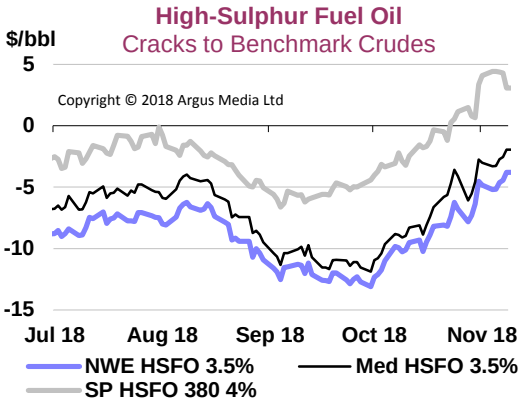
Global diesel cracks are up at four-year highs thanks to seasonally stronger demand in the US and Europe, supported by the increasing use of trucks in US LTO and shale production. Reduced diesel exports from Russia in October contributed to prices in Northwest Europe gaining $1.99/bbl against crude prices.

In Singapore, cargoes of 0.05% gasoil gained $1.04/bbl on benchmark Dubai crude prices as regional supplies tightened. Chinese exports fell on higher domestic demand, Indian output was curbed due to refinery maintenance and Japanese supplies were hindered by recent natural disasters. In Europe, prices gained seasonally ahead of winter when gasoil is used for space heating.

Tightness in Asian fuel oil markets saw the price of 380 centistoke high sulphur fuel oil (HSFO) in Singapore exceed the price of benchmark Dubai crude by $4.41/bbl on 5 November. Asian demand is strong, for example from South Korea and Pakistan for power generation, and Iranian supplies are lower

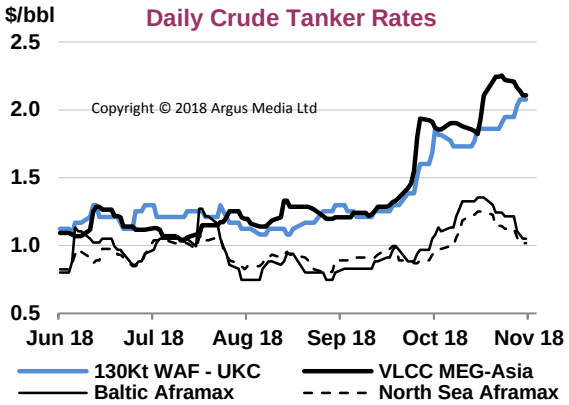
due to sanctions. In Europe, cracks remain in negative territory but Rotterdam barge assessments for HSFO moved up by $5.10/bbl m-o-m thanks to strong export demand to Asia. Low Sulphur Fuel Oil (LSFO) prices are also on an upward trajectory.

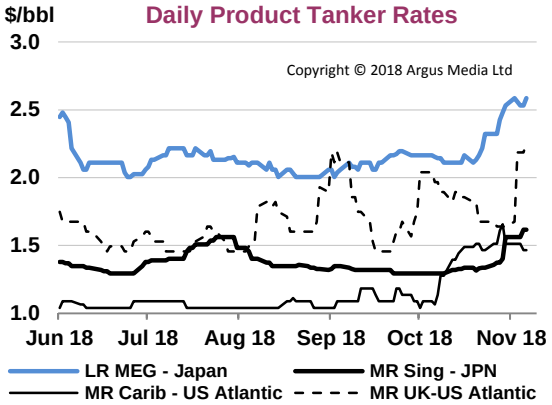



## Freight

October saw a hike in rates for Very Large Crude Carriers (VLCC) sailing between the Middle East Gulf (MEG) and Asia. On 1 November rates reached $2.25/bbl, almost doubling in two months and the highest since December 2016. This is partly due to increased fuel prices, up 10% m-o-m, being passed on to consumers. Rate growth is also thanks to high demand for movements from the MEG to China, where refineries are ramping up. Furthermore, as Iranian exports decline, refiners in Asia are sourcing replacement barrels from further afield and these longer journey times add to shipping costs. Suezmaxes travelling between Northwest Europe and West Africa gained $0.56/bbl over the month on higher demand. Rates for Aframaxes in the North Sea and Baltic region also improved, although to a lesser extent, due to reduced availability of ships and weather delays. With more new crude tankers due on the market in the next 18 months it remains to be seen whether the strong VLCC freight rates will be maintained. Barry Rogliano Salles Group forecast that 80 ships are due to join the VLCC fleet by the end of 2019, a growth of 11%.




Rates to transport products have not seen the same upswing as those for crude. Rates for Medium Range (MR) vessels voyaging between the US and Northwest Europe gained $0.50/bbl in the first half of October to reach $2.04/bbl but the rise was not sustained as demand to transport gasoline to the US and West Africa dropped. Long Range (LR) vessels travelling on the MEG to Japan route gained $0.23/bbl as higher exports from Saudi Arabia hit the market.

# 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 | 25.5 | 25.5 | 25.3 | 25.7 | 26.0 | 25.8 | 25.7 |
| Europe | 13.8 | 14.0 | 13.8 | 14.3 | 14.7 | 14.4 | 14.3 | 14.1 | 14.2 | 14.6 | 14.3 | 14.3 | 14.0 | 14.5 | 14.9 | 14.4 | 14.4 |
| Asia Oceania | 8.1 | 8.1 | 8.5 | 7.7 | 7.8 | 8.3 | 8.1 | 8.5 | 7.6 | 7.6 | 8.2 | 8.0 | 8.4 | 7.5 | 7.6 | 8.2 | 7.9 |
| Total OECD | 46.5 | 47.0 | 46.9 | 47.0 | 47.7 | 48.1 | 47.4 | 47.8 | 47.1 | 48.1 | 48.0 | 47.8 | 47.7 | 47.7 | 48.4 | 48.4 | 48.1 |
| **NON-OECD DEMAND** | | | | | | | | | | | | | | | | | |
| FSU | 4.6 | 4.5 | 4.3 | 4.5 | 4.7 | 4.6 | 4.5 | 4.5 | 4.6 | 5.0 | 4.7 | 4.7 | 4.6 | 4.8 | 5.0 | 4.8 | 4.8 |
| Europe | 0.7 | 0.7 | 0.7 | 0.8 | 0.8 | 0.8 | 0.7 | 0.7 | 0.7 | 0.8 | 0.8 | 0.8 | 0.7 | 0.8 | 0.8 | 0.8 | 0.8 |
| China | 11.6 | 12.0 | 12.4 | 12.9 | 12.3 | 12.7 | 12.6 | 12.7 | 13.0 | 13.2 | 13.4 | 13.1 | 13.1 | 13.4 | 13.5 | 13.7 | 13.5 |
| Other Asia | 12.5 | 13.0 | 13.2 | 13.4 | 13.2 | 13.6 | 13.4 | 13.7 | 13.9 | 13.4 | 14.1 | 13.8 | 14.1 | 14.3 | 13.9 | 14.5 | 14.2 |
| Americas | 6.7 | 6.4 | 6.3 | 6.5 | 6.6 | 6.4 | 6.5 | 6.3 | 6.4 | 6.5 | 6.5 | 6.4 | 6.3 | 6.4 | 6.5 | 6.5 | 6.4 |
| Middle East | 8.5 | 8.5 | 8.2 | 8.7 | 8.9 | 8.2 | 8.5 | 8.1 | 8.5 | 8.8 | 8.4 | 8.4 | 8.1 | 8.6 | 8.9 | 8.3 | 8.5 |
| Africa | 4.2 | 4.3 | 4.4 | 4.3 | 4.2 | 4.3 | 4.3 | 4.3 | 4.3 | 4.2 | 4.3 | 4.3 | 4.4 | 4.4 | 4.3 | 4.4 | 4.4 |
| Total Non-OECD | 48.7 | 49.4 | 49.6 | 51.0 | 50.7 | 50.6 | 50.5 | 50.4 | 51.4 | 51.7 | 52.1 | 51.4 | 51.4 | 52.6 | 52.9 | 53.0 | 52.5 |
| **Total Demand[1]** | **95.3** | **96.4** | **96.5** | **98.0** | **98.3** | **98.6** | **97.9** | **98.2** | **98.5** | **99.8** | **100.1** | **99.2** | **99.2** | **100.3** | **101.4** | **101.4** | **100.6** |
| **OECD SUPPLY** | | | | | | | | | | | | | | | | | |
| Americas[4] | 20.0 | 19.5 | 20.0 | 19.8 | 20.3 | 21.2 | 20.3 | 21.7 | 22.2 | 23.2 | 23.2 | 22.6 | 23.6 | 23.7 | 24.1 | 24.2 | 23.9 |
| Europe | 3.5 | 3.5 | 3.7 | 3.5 | 3.4 | 3.4 | 3.5 | 3.6 | 3.4 | 3.3 | 3.3 | 3.4 | 3.4 | 3.3 | 3.3 | 3.4 | 3.3 |
| Asia Oceania | 0.5 | 0.4 | 0.4 | 0.4 | 0.4 | 0.4 | 0.4 | 0.4 | 0.4 | 0.4 | 0.4 | 0.4 | 0.4 | 0.5 | 0.5 | 0.5 | 0.5 |
| Total OECD | 23.9 | 23.4 | 24.0 | 23.7 | 24.0 | 25.0 | 24.2 | 25.7 | 25.9 | 26.9 | 26.9 | 26.4 | 27.4 | 27.5 | 27.8 | 28.1 | 27.7 |
| **NON-OECD SUPPLY** | | | | | | | | | | | | | | | | | |
| FSU | 14.0 | 14.2 | 14.4 | 14.3 | 14.2 | 14.4 | 14.3 | 14.4 | 14.5 | 14.6 | 14.9 | 14.6 | 15.0 | 15.0 | 14.9 | 15.0 | 15.0 |
| Europe | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 |
| China | 4.3 | 4.0 | 3.9 | 3.9 | 3.8 | 3.8 | 3.9 | 3.8 | 3.9 | 3.8 | 3.8 | 3.8 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 |
| Other Asia[2] | 3.6 | 3.6 | 3.5 | 3.4 | 3.5 | 3.4 | 3.5 | 3.4 | 3.3 | 3.3 | 3.3 | 3.3 | 3.3 | 3.2 | 3.2 | 3.2 | 3.2 |
| Americas[2,4] | 4.6 | 4.5 | 4.6 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.4 | 4.5 | 4.5 | 4.6 | 4.8 | 4.9 | 5.0 | 4.8 |
| Middle East | 1.3 | 1.3 | 1.3 | 1.3 | 1.3 | 1.2 | 1.2 | 1.2 | 1.3 | 1.3 | 1.3 | 1.3 | 1.3 | 1.3 | 1.2 | 1.2 | 1.2 |
| Africa[2] | 1.5 | 1.4 | 1.4 | 1.4 | 1.4 | 1.4 | 1.4 | 1.4 | 1.5 | 1.5 | 1.4 | 1.5 | 1.5 | 1.4 | 1.4 | 1.4 | 1.4 |
| Total Non-OECD | 29.4 | 29.1 | 29.2 | 29.0 | 28.9 | 29.0 | 29.0 | 29.0 | 29.1 | 29.0 | 29.3 | 29.1 | 29.4 | 29.5 | 29.5 | 29.8 | 29.6 |
| Processing gains[3] | 2.2 | 2.3 | 2.3 | 2.3 | 2.3 | 2.3 | 2.3 | 2.3 | 2.3 | 2.3 | 2.3 | 2.3 | 2.3 | 2.3 | 2.3 | 2.3 | 2.3 |
| Global Biofuels | 2.3 | 2.4 | 2.0 | 2.5 | 2.9 | 2.5 | 2.5 | 2.1 | 2.7 | 3.0 | 2.5 | 2.6 | 2.2 | 2.8 | 3.0 | 2.7 | 2.7 |
| Total Non-OPEC Supply | 57.8 | 57.1 | 57.5 | 57.5 | 58.1 | 58.8 | 58.0 | 59.1 | 60.0 | 61.2 | 61.0 | 60.3 | 61.4 | 62.1 | 62.7 | 62.9 | 62.3 |
| **OPEC** | | | | | | | | | | | | | | | | | |
| Crude | 32.1 | 33.0 | 32.3 | 32.6 | 33.0 | 32.6 | 32.6 | 32.3 | 32.1 | 32.6 | | | | | | | |
| NGLs | 6.5 | 6.8 | 6.9 | 6.9 | 6.9 | 6.8 | 6.9 | 6.9 | 6.9 | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 |
| Total OPEC | 38.6 | 39.8 | 39.2 | 39.5 | 39.9 | 39.5 | 39.5 | 39.3 | 39.1 | 39.6 | | | | | | | |
| **Total Supply[4]** | **96.4** | **96.9** | **96.7** | **97.0** | **97.9** | **98.2** | **97.5** | **98.3** | **99.1** | **100.7** | | | | | | | |
| **STOCK CHANGES AND MISCELLANEOUS** | | | | | | | | | | | | | | | | | |
| **Reported OECD** | | | | | | | | | | | | | | | | | |
| Industry | 0.8 | 0.0 | 0.3 | -0.1 | -0.5 | -1.3 | -0.4 | -0.5 | 0.0 | 0.6 | | | | | | | |
| Government | 0.0 | 0.0 | 0.0 | -0.1 | -0.1 | -0.1 | -0.1 | 0.1 | -0.1 | 0.0 | | | | | | | |
| Total | 0.8 | 0.0 | 0.3 | -0.2 | -0.7 | -1.4 | -0.5 | -0.4 | 0.0 | 0.6 | | | | | | | |
| Floating storage/Oil in transit | 0.3 | 0.2 | 0.0 | -0.1 | 0.5 | 1.0 | 0.4 | -1.0 | 0.3 | -0.3 | | | | | | | |
| Miscellaneous to balance[5] | 0.1 | 0.4 | -0.1 | -0.7 | -0.3 | 0.0 | -0.3 | 1.5 | 0.4 | 0.6 | | | | | | | |
| **Total Stock Ch. & Misc** | **1.2** | **0.6** | **0.2** | **-1.1** | **-0.4** | **-0.4** | **-0.4** | **0.1** | **0.6** | **0.9** | | | | | | | |
| **Memo items:** | | | | | | | | | | | | | | | | | |
| Call on OPEC crude + Stock ch.[6] | 30.9 | 32.5 | 32.1 | 33.6 | 33.4 | 33.0 | 33.0 | 32.2 | 31.6 | 31.7 | 32.1 | 31.9 | 30.7 | 31.3 | 31.6 | 31.5 | 31.3 |

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 Other Asia includes Indonesia throughout. Latin America excludes Ecuador throughout. Africa excludes Angola, Gabon and Equatorial Guinea throughout.
3 Net volumetric gains and losses in the refining process and marine transportation losses.
4 Comprises crude oil, condensates, NGLs, oil from non-conventional sources and other sources of supply.
5 Includes changes in non-reported stocks in OECD and non-OECD areas.
6 Equals the arithmetic difference between total demand minus total non-OPEC supply minus OPEC NGLs.

## Table 1a
## WORLD OIL SUPPLY AND DEMAND: CHANGES FROM LAST MONTH'S TABLE 1

(million barrels per day)

| | 2015 | 2016 | 1Q17 | 2Q17 | 3Q17 | 4Q17 | 2017 | 1Q18 | 2Q18 | 3Q18 | 4Q18 | 2018 | 1Q19 | 2Q19 | 3Q19 | 4Q19 | 2019 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **OECD DEMAND** | | | | | | | | | | | | | | | | | |
| Americas | - | - | - | - | - | - | - | - | - | 0.2 | - | 0.1 | 0.1 | 0.1 | 0.3 | - | 0.1 |
| Europe | - | - | - | - | - | - | - | - | - | - | - | - | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 |
| Asia Oceania | - | - | - | - | - | - | - | - | - | -0.1 | - | - | - | - | - | - | - |
| Total OECD | - | - | - | - | - | - | - | - | - | 0.2 | 0.1 | 0.1 | 0.3 | 0.1 | 0.4 | 0.1 | 0.2 |
| **NON-OECD DEMAND** | | | | | | | | | | | | | | | | | |
| FSU | - | - | - | - | - | - | - | - | - | 0.1 | 0.1 | - | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 |
| Europe | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| China | - | - | - | - | - | - | - | - | - | - | -0.1 | - | -0.1 | -0.1 | -0.2 | -0.2 | -0.1 |
| Other Asia | - | - | - | - | - | - | - | - | - | - | - | - | 0.1 | 0.1 | 0.1 | - | 0.1 |
| Americas | - | - | - | - | - | - | - | - | - | -0.1 | - | - | - | -0.1 | -0.1 | -0.1 | -0.1 |
| Middle East | - | - | - | - | - | - | - | - | - | -0.1 | -0.1 | - | -0.1 | -0.1 | -0.2 | -0.2 | -0.1 |
| Africa | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Total Non-OECD | - | - | - | - | - | - | - | - | 0.1 | -0.1 | -0.1 | - | - | -0.1 | -0.3 | -0.3 | -0.2 |
| **Total Demand** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **0.1** | **0.1** | **-** | **-** | **0.2** | **0.1** | **0.1** | **-0.2** | **0.1** |
| **OECD SUPPLY** | | | | | | | | | | | | | | | | | |
| Americas | - | - | - | - | - | - | - | - | - | 0.5 | 0.5 | 0.3 | 0.5 | 0.3 | 0.5 | 0.2 | 0.3 |
| Europe | - | - | - | - | - | - | - | - | - | -0.1 | -0.2 | -0.1 | -0.1 | - | - | - | - |
| Asia Oceania | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Total OECD | - | - | - | - | - | - | - | - | - | 0.5 | 0.4 | 0.2 | 0.4 | 0.2 | 0.5 | 0.2 | 0.3 |
| **NON-OECD SUPPLY** | | | | | | | | | | | | | | | | | |
| FSU | - | - | - | - | - | - | - | - | - | - | 0.1 | - | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 |
| Europe | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| China | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Other Asia | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Americas | - | - | - | - | - | - | - | - | - | -0.1 | -0.1 | - | -0.1 | -0.1 | -0.1 | - | -0.1 |
| Middle East | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Africa | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Total Non-OECD | - | - | - | - | - | - | - | - | - | -0.1 | -0.1 | - | - | - | - | 0.1 | - |
| Processing gains | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Global Biofuels | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Total Non-OPEC Supply | - | - | - | - | - | - | - | - | - | 0.4 | 0.3 | 0.2 | 0.3 | 0.2 | 0.5 | 0.3 | 0.3 |
| **OPEC** | | | | | | | | | | | | | | | | | |
| Crude | - | - | - | - | - | - | - | - | - | - | | | | | | | |
| NGLs | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Total OPEC | - | - | - | - | - | - | - | - | - | - | | | | | | | |
| **Total Supply** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **0.4** | | | | | | | |
| **STOCK CHANGES AND MISCELLANEOUS** | | | | | | | | | | | | | | | | | |
| **REPORTED OECD** | | | | | | | | | | | | | | | | | |
| Industry | - | - | - | - | - | - | - | - | - | | | | | | | | |
| Government | - | - | - | - | - | - | - | - | - | | | | | | | | |
| Total | - | - | - | - | - | - | - | - | - | | | | | | | | |
| Floating storage/Oil in transit | - | - | - | - | - | - | - | - | - | | | | | | | | |
| Miscellaneous to balance | - | - | - | - | - | - | - | - | - | | | | | | | | |
| **Total Stock Ch. & Misc** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **0.3** | | | | | | | |
| **Memo items:** | | | | | | | | | | | | | | | | | |
| Call on OPEC crude + Stock ch. | - | - | - | - | - | - | - | - | - | -0.3 | -0.3 | -0.1 | -0.1 | -0.1 | -0.4 | -0.5 | -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 | 25.85 | 25.52 | 25.50 | 25.30 | 25.68 | 26.01 | 25.79 | 25.70 |
| Europe | 13.99 | 13.82 | 14.25 | 14.70 | 14.40 | 14.30 | 14.05 | 14.15 | 14.64 | 14.31 | 14.29 | 14.00 | 14.47 | 14.86 | 14.40 | 14.43 |
| Asia Oceania | 8.11 | 8.48 | 7.65 | 7.80 | 8.33 | 8.06 | 8.51 | 7.60 | 7.62 | 8.20 | 7.98 | 8.43 | 7.54 | 7.56 | 8.20 | 7.93 |
| Total OECD | 46.97 | 46.91 | 47.02 | 47.66 | 48.06 | 47.42 | 47.82 | 47.12 | 48.11 | 48.04 | 47.78 | 47.72 | 47.69 | 48.43 | 48.38 | 48.06 |
| Asia | 24.97 | 25.62 | 26.32 | 25.56 | 26.26 | 25.94 | 26.41 | 26.91 | 26.58 | 27.44 | 26.84 | 27.25 | 27.74 | 27.43 | 28.20 | 27.66 |
| Middle East | 8.49 | 8.24 | 8.67 | 8.88 | 8.23 | 8.51 | 8.11 | 8.45 | 8.78 | 8.36 | 8.43 | 8.13 | 8.57 | 8.91 | 8.30 | 8.48 |
| Americas | 6.44 | 6.34 | 6.46 | 6.56 | 6.45 | 6.45 | 6.33 | 6.36 | 6.47 | 6.46 | 6.40 | 6.30 | 6.41 | 6.49 | 6.47 | 6.42 |
| FSU | 4.51 | 4.30 | 4.51 | 4.73 | 4.60 | 4.54 | 4.48 | 4.63 | 4.96 | 4.71 | 4.70 | 4.57 | 4.78 | 5.05 | 4.84 | 4.81 |
| Africa | 4.25 | 4.36 | 4.29 | 4.19 | 4.26 | 4.28 | 4.33 | 4.29 | 4.17 | 4.34 | 4.28 | 4.43 | 4.38 | 4.26 | 4.40 | 4.37 |
| Europe | 0.72 | 0.72 | 0.75 | 0.76 | 0.76 | 0.75 | 0.73 | 0.74 | 0.77 | 0.78 | 0.76 | 0.75 | 0.77 | 0.79 | 0.79 | 0.77 |
| Total Non-OECD | 49.39 | 49.57 | 51.01 | 50.69 | 50.55 | 50.46 | 50.39 | 51.39 | 51.73 | 52.08 | 51.41 | 51.43 | 52.64 | 52.93 | 53.00 | 52.51 |
| **World** | **96.36** | **96.49** | **98.03** | **98.34** | **98.62** | **97.88** | **98.22** | **98.51** | **99.84** | **100.12** | **99.19** | **99.16** | **100.33** | **101.36** | **101.39** | **100.57** |
| of which: US50 | 19.69 | 19.54 | 20.07 | 20.01 | 20.21 | 19.96 | 20.24 | 20.33 | 20.70 | 20.41 | 20.42 | 20.26 | 20.63 | 20.84 | 20.65 | 20.60 |
| Europe 5* | 8.15 | 8.16 | 8.28 | 8.44 | 8.24 | 8.28 | 8.18 | 8.16 | 8.24 | 8.15 | 8.18 | 8.11 | 8.26 | 8.40 | 8.19 | 8.24 |
| China | 11.99 | 12.44 | 12.88 | 12.33 | 12.65 | 12.58 | 12.72 | 13.02 | 13.18 | 13.37 | 13.07 | 13.11 | 13.42 | 13.54 | 13.73 | 13.45 |
| Japan | 4.01 | 4.30 | 3.58 | 3.63 | 4.06 | 3.89 | 4.27 | 3.43 | 3.52 | 3.92 | 3.78 | 4.20 | 3.39 | 3.43 | 3.88 | 3.72 |
| India | 4.44 | 4.46 | 4.67 | 4.42 | 4.72 | 4.57 | 4.82 | 4.91 | 4.57 | 5.00 | 4.83 | 5.03 | 5.14 | 4.80 | 5.19 | 5.04 |
| Russia | 3.33 | 3.14 | 3.31 | 3.50 | 3.34 | 3.32 | 3.29 | 3.39 | 3.69 | 3.42 | 3.45 | 3.36 | 3.51 | 3.75 | 3.49 | 3.53 |
| Brazil | 2.98 | 2.92 | 2.96 | 3.08 | 3.04 | 3.00 | 2.95 | 2.91 | 3.07 | 3.11 | 3.01 | 2.93 | 2.98 | 3.08 | 3.08 | 3.02 |
| Saudi Arabia | 3.30 | 2.93 | 3.41 | 3.62 | 3.13 | 3.27 | 2.93 | 3.18 | 3.38 | 3.18 | 3.17 | 2.88 | 3.32 | 3.52 | 3.12 | 3.21 |
| Canada | 2.47 | 2.37 | 2.36 | 2.52 | 2.52 | 2.45 | 2.32 | 2.34 | 2.51 | 2.47 | 2.41 | 2.35 | 2.34 | 2.51 | 2.48 | 2.42 |
| Korea | 2.61 | 2.62 | 2.49 | 2.57 | 2.65 | 2.58 | 2.63 | 2.55 | 2.48 | 2.63 | 2.57 | 2.61 | 2.52 | 2.51 | 2.66 | 2.57 |
| Mexico | 2.05 | 2.02 | 2.03 | 1.95 | 1.93 | 1.98 | 1.99 | 2.02 | 1.97 | 1.96 | 1.99 | 1.98 | 2.03 | 1.98 | 1.97 | 1.99 |
| Iran | 1.96 | 2.12 | 2.03 | 2.00 | 2.00 | 2.04 | 2.01 | 2.00 | 1.99 | 1.99 | 2.00 | 2.06 | 1.97 | 1.95 | 1.93 | 1.98 |
| **Total** | **66.98** | **67.03** | **68.08** | **68.09** | **68.51** | **67.93** | **68.34** | **68.25** | **69.30** | **69.61** | **68.88** | **68.88** | **69.51** | **70.31** | **70.38** | **69.78** |
| % of World | 69.5% | 69.5% | 69.4% | 69.2% | 69.5% | 69.4% | 69.6% | 69.3% | 69.4% | 69.5% | 69.4% | 69.5% | 69.3% | 69.4% | 69.4% | 69.4% |
| **Annual Change (% per annum)** | | | | | | | | | | | | | | | | |
| Americas | 1.1 | -0.5 | 2.1 | -0.1 | 1.4 | 0.7 | 2.6 | 1.0 | 2.8 | 0.7 | 1.8 | 0.2 | 1.2 | 0.6 | 1.0 | 0.8 |
| Europe | 1.2 | 2.0 | 2.7 | 2.2 | 1.8 | 2.2 | 1.6 | -0.7 | -0.4 | -0.6 | 0.0 | -0.4 | 2.3 | 1.5 | 0.6 | 1.0 |
| Asia Oceania | 0.0 | -1.4 | -0.3 | 0.0 | -0.2 | -0.5 | 0.4 | -0.7 | -2.3 | -1.5 | -1.0 | -1.0 | -0.8 | -0.8 | -0.1 | -0.7 |
| Total OECD | 1.0 | 0.1 | 1.9 | 0.6 | 1.3 | 1.0 | 1.9 | 0.2 | 1.0 | -0.1 | 0.8 | -0.2 | 1.2 | 0.7 | 0.7 | 0.6 |
| Asia | 4.0 | 3.2 | 3.8 | 4.5 | 4.1 | 3.9 | 3.1 | 2.3 | 4.0 | 4.5 | 3.5 | 3.2 | 3.1 | 3.2 | 2.8 | 3.1 |
| Middle East | -0.4 | 1.7 | 0.5 | -0.3 | -1.1 | 0.2 | -1.6 | -2.6 | -1.1 | 1.6 | -0.9 | 0.2 | 1.4 | 1.5 | -0.8 | 0.6 |
| Americas | -4.1 | -0.2 | 0.0 | 0.5 | 0.7 | 0.2 | -0.1 | -1.6 | -1.5 | 0.1 | -0.8 | -0.4 | 0.8 | 0.4 | 0.1 | 0.2 |
| FSU | -1.3 | -1.1 | 3.6 | 0.9 | -1.1 | 0.5 | 4.3 | 2.7 | 5.0 | 2.3 | 3.6 | 2.1 | 3.2 | 1.7 | 2.9 | 2.4 |
| Africa | 1.1 | 1.7 | -0.1 | 1.0 | -0.5 | 0.5 | -0.6 | -0.1 | -0.5 | 1.7 | 0.1 | 2.2 | 2.1 | 2.2 | 1.5 | 2.0 |
| Europe | 4.8 | 1.7 | 2.2 | 4.2 | 4.3 | 3.1 | 2.5 | -0.9 | 1.5 | 3.3 | 1.5 | 2.1 | 2.9 | 2.2 | 1.0 | 2.1 |
| Total Non-OECD | 1.4 | 2.0 | 2.4 | 2.4 | 1.9 | 2.2 | 1.7 | 0.7 | 2.1 | 3.0 | 1.9 | 2.1 | 2.4 | 2.3 | 1.8 | 2.1 |
| **World** | **1.2** | **1.0** | **2.1** | **1.5** | **1.6** | **1.6** | **1.8** | **0.5** | **1.5** | **1.5** | **1.3** | **1.0** | **1.9** | **1.5** | **1.3** | **1.4** |
| **Annual Change (mb/d)** | | | | | | | | | | | | | | | | |
| Americas | 0.28 | -0.11 | 0.51 | -0.03 | 0.36 | 0.18 | 0.65 | 0.25 | 0.70 | 0.18 | 0.44 | 0.04 | 0.31 | 0.17 | 0.26 | 0.20 |
| Europe | 0.16 | 0.27 | 0.37 | 0.31 | 0.26 | 0.31 | 0.23 | -0.10 | -0.06 | -0.09 | -0.01 | -0.05 | 0.32 | 0.21 | 0.09 | 0.14 |
| Asia Oceania | 0.00 | -0.12 | -0.02 | 0.00 | -0.02 | -0.04 | 0.03 | -0.05 | -0.18 | -0.12 | -0.08 | -0.09 | -0.06 | -0.06 | -0.01 | -0.06 |
| Total OECD | 0.45 | 0.04 | 0.86 | 0.28 | 0.60 | 0.45 | 0.91 | 0.10 | 0.46 | -0.02 | 0.36 | -0.10 | 0.57 | 0.32 | 0.35 | 0.29 |
| Asia | 0.95 | 0.79 | 0.97 | 1.09 | 1.04 | 0.97 | 0.79 | 0.59 | 1.02 | 1.18 | 0.90 | 0.85 | 0.82 | 0.85 | 0.77 | 0.82 |
| Middle East | -0.04 | 0.14 | 0.04 | -0.03 | -0.09 | 0.01 | -0.13 | -0.22 | -0.10 | 0.13 | -0.08 | 0.02 | 0.12 | 0.13 | -0.07 | 0.05 |
| Americas | -0.28 | -0.01 | 0.00 | 0.03 | 0.04 | 0.01 | -0.01 | -0.10 | -0.10 | 0.01 | -0.05 | -0.03 | 0.05 | 0.03 | 0.01 | 0.02 |
| FSU | -0.06 | -0.05 | 0.16 | 0.04 | -0.05 | 0.02 | 0.18 | 0.12 | 0.23 | 0.11 | 0.16 | 0.09 | 0.15 | 0.08 | 0.14 | 0.11 |
| Africa | 0.05 | 0.07 | -0.01 | 0.04 | -0.02 | 0.02 | -0.03 | 0.00 | -0.02 | 0.07 | 0.01 | 0.10 | 0.09 | 0.09 | 0.06 | 0.08 |
| Europe | 0.03 | 0.01 | 0.02 | 0.03 | 0.03 | 0.02 | 0.02 | -0.01 | 0.01 | 0.03 | 0.01 | 0.02 | 0.02 | 0.02 | 0.01 | 0.02 |
| Total Non-OECD | 0.66 | 0.95 | 1.17 | 1.21 | 0.95 | 1.07 | 0.82 | 0.38 | 1.05 | 1.53 | 0.95 | 1.04 | 1.25 | 1.20 | 0.92 | 1.10 |
| **World** | **1.11** | **0.99** | **2.03** | **1.49** | **1.55** | **1.52** | **1.73** | **0.47** | **1.50** | **1.50** | **1.30** | **0.94** | **1.83** | **1.52** | **1.27** | **1.39** |
| **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 | 0.25 | 0.05 | 0.07 | 0.14 | 0.08 | 0.26 | 0.02 | 0.13 |
| Europe | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | -0.01 | 0.01 | 0.03 | 0.01 | 0.09 | 0.07 | 0.11 | 0.07 | 0.09 |
| Asia Oceania | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | -0.07 | -0.02 | -0.02 | 0.03 | -0.01 | -0.01 | 0.00 | 0.00 |
| Total OECD | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | -0.01 | 0.19 | 0.06 | 0.06 | 0.26 | 0.14 | 0.36 | 0.10 | 0.22 |
| Asia | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.05 | 0.00 | -0.10 | -0.02 | -0.01 | 0.01 | -0.11 | -0.12 | -0.06 |
| Middle East | 0.00 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.03 | -0.13 | -0.06 | -0.04 | -0.10 | -0.09 | -0.16 | -0.17 | -0.13 |
| Americas | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | -0.02 | -0.02 | -0.07 | -0.02 | -0.03 | -0.04 | -0.06 | -0.07 | -0.06 | -0.06 |
| FSU | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.03 | 0.02 | 0.06 | 0.08 | 0.05 | 0.08 | 0.06 | 0.06 | 0.06 | 0.07 |
| Africa | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | -0.01 | -0.01 | 0.01 | 0.02 | 0.00 | 0.01 | 0.02 | 0.02 | 0.01 | 0.01 |
| Europe | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Total Non-OECD | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.07 | -0.12 | -0.09 | -0.04 | -0.05 | -0.05 | -0.26 | -0.29 | -0.16 |
| **World** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.05** | **0.07** | **-0.03** | **0.02** | **0.21** | **0.09** | **0.10** | **-0.19** | **0.05** |
| **Revisions to Oil Demand Growth from Last Month's Report (mb/d)** | | | | | | | | | | | | | | | | |
| World | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.05 | 0.07 | -0.04 | 0.02 | 0.20 | 0.04 | 0.03 | -0.15 | 0.03 |

* France, Germany, Italy, Spain and UK

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

| | 2016 | 2017 | 3Q17 | 4Q17 | 1Q18 | 2Q18 | Jun 18 | Jul 18 | Aug 18 [2] | Latest month vs. Jul 18 | Latest month vs. Aug 17 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Americas** | | | | | | | | | | | |
| LPG and ethane | 3.32 | 3.33 | 3.05 | 3.55 | 3.99 | 3.29 | 3.19 | 3.46 | 3.40 | -0.06 | 0.51 |
| Naphtha | 0.34 | 0.34 | 0.34 | 0.33 | 0.28 | 0.27 | 0.27 | 0.31 | 0.31 | 0.01 | -0.04 |
| Motor gasoline | 11.09 | 11.11 | 11.40 | 11.04 | 10.73 | 11.28 | 11.63 | 11.39 | 11.54 | 0.14 | -0.10 |
| Jet and kerosene | 1.90 | 1.98 | 2.03 | 2.03 | 1.95 | 2.04 | 2.18 | 2.12 | 2.21 | 0.09 | 0.11 |
| Gasoil/diesel oil | 5.13 | 5.14 | 5.07 | 5.28 | 5.39 | 5.38 | 5.25 | 5.20 | 5.41 | 0.21 | 0.15 |
| Residual fuel oil | 0.63 | 0.68 | 0.64 | 0.67 | 0.63 | 0.68 | 0.60 | 0.73 | 0.72 | 0.00 | 0.07 |
| Other products | 2.47 | 2.47 | 2.61 | 2.44 | 2.31 | 2.42 | 2.70 | 2.61 | 2.86 | 0.25 | 0.26 |
| **Total** | **24.87** | **25.06** | **25.15** | **25.34** | **25.26** | **25.37** | **25.82** | **25.82** | **26.46** | **0.64** | **0.97** |
| **Europe** | | | | | | | | | | | |
| LPG and ethane | 1.16 | 1.12 | 1.08 | 1.11 | 1.24 | 1.11 | 1.09 | 1.14 | 1.20 | 0.06 | 0.14 |
| Naphtha | 1.10 | 1.18 | 1.17 | 1.22 | 1.16 | 1.02 | 1.01 | 1.03 | 1.02 | -0.01 | -0.18 |
| Motor gasoline | 1.88 | 1.89 | 1.98 | 1.85 | 1.82 | 1.99 | 2.06 | 2.03 | 2.05 | 0.02 | 0.02 |
| Jet and kerosene | 1.37 | 1.46 | 1.65 | 1.41 | 1.36 | 1.54 | 1.62 | 1.69 | 1.71 | 0.02 | 0.08 |
| Gasoil/diesel oil | 6.31 | 6.48 | 6.54 | 6.64 | 6.44 | 6.32 | 6.39 | 6.46 | 6.43 | -0.03 | -0.02 |
| Residual fuel oil | 0.88 | 0.89 | 0.89 | 0.93 | 0.89 | 0.87 | 0.87 | 0.94 | 0.88 | -0.06 | 0.00 |
| Other products | 1.29 | 1.28 | 1.38 | 1.25 | 1.14 | 1.29 | 1.38 | 1.48 | 1.36 | -0.12 | 0.04 |
| **Total** | **13.99** | **14.30** | **14.70** | **14.40** | **14.05** | **14.15** | **14.42** | **14.76** | **14.64** | **-0.12** | **0.09** |
| **Asia Oceania** | | | | | | | | | | | |
| LPG and ethane | 0.78 | 0.75 | 0.69 | 0.73 | 0.82 | 0.72 | 0.69 | 0.67 | 0.65 | -0.02 | -0.05 |
| Naphtha | 1.98 | 2.04 | 2.01 | 2.13 | 2.04 | 1.92 | 1.77 | 1.93 | 1.96 | 0.03 | -0.08 |
| Motor gasoline | 1.55 | 1.54 | 1.62 | 1.56 | 1.51 | 1.51 | 1.52 | 1.59 | 1.65 | 0.06 | -0.01 |
| Jet and kerosene | 0.90 | 0.91 | 0.71 | 1.05 | 1.18 | 0.74 | 0.69 | 0.68 | 0.71 | 0.03 | 0.01 |
| Gasoil/diesel oil | 1.82 | 1.89 | 1.87 | 1.95 | 1.95 | 1.90 | 1.93 | 1.88 | 1.87 | -0.01 | 0.06 |
| Residual fuel oil | 0.65 | 0.58 | 0.54 | 0.58 | 0.66 | 0.49 | 0.45 | 0.53 | 0.56 | 0.03 | 0.02 |
| Other products | 0.42 | 0.35 | 0.36 | 0.32 | 0.35 | 0.32 | 0.35 | 0.34 | 0.30 | -0.05 | -0.08 |
| **Total** | **8.11** | **8.06** | **7.80** | **8.33** | **8.51** | **7.60** | **7.40** | **7.63** | **7.71** | **0.08** | **-0.13** |
| **OECD** | | | | | | | | | | | |
| LPG and ethane | 5.25 | 5.20 | 4.83 | 5.39 | 6.05 | 5.12 | 4.98 | 5.27 | 5.26 | -0.01 | 0.61 |
| Naphtha | 3.43 | 3.56 | 3.52 | 3.67 | 3.48 | 3.21 | 3.06 | 3.26 | 3.29 | 0.03 | -0.29 |
| Motor gasoline | 14.53 | 14.55 | 15.01 | 14.46 | 14.05 | 14.78 | 15.21 | 15.01 | 15.23 | 0.22 | -0.09 |
| Jet and kerosene | 4.17 | 4.35 | 4.40 | 4.48 | 4.49 | 4.33 | 4.48 | 4.50 | 4.63 | 0.14 | 0.21 |
| Gasoil/diesel oil | 13.26 | 13.51 | 13.48 | 13.87 | 13.78 | 13.60 | 13.57 | 13.54 | 13.72 | 0.18 | 0.18 |
| Residual fuel oil | 2.16 | 2.15 | 2.07 | 2.18 | 2.18 | 2.04 | 1.91 | 2.19 | 2.16 | -0.03 | 0.10 |
| Other products | 4.18 | 4.10 | 4.35 | 4.01 | 3.79 | 4.04 | 4.43 | 4.43 | 4.51 | 0.08 | 0.22 |
| **Total** | **46.97** | **47.42** | **47.66** | **48.06** | **47.82** | **47.12** | **47.64** | **48.20** | **48.80** | **0.60** | **0.93** |

1 Demand, measured as deliveries from refineries and primary stocks, comprises inland deliveries, international bunkers and refinery fuel. It includes crude for direct burning, oil from non-conventional sources and other sources of supply. Jet/kerosene comprises jet kerosene and non-aviation kerosene. Gasoil comprises diesel, light heating oil and other gasoils. North America comprises US 50 states, US territories, Mexico and Canada.
2 Latest official OECD submissions (MOS).

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

| | 2016 | 2017 | 3Q17 | 4Q17 | 1Q18 | 2Q18 | Jun 18 | Jul 18 | Aug 18 [2] | Latest month vs. Jul 18 | Latest month vs. Aug 17 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **United States[3]** | | | | | | | | | | | |
| LPG and ethane | 2.47 | 2.54 | 2.31 | 2.73 | 3.12 | 2.58 | 2.54 | 2.67 | 2.72 | 0.05 | 0.55 |
| Naphtha | 0.22 | 0.23 | 0.21 | 0.22 | 0.21 | 0.20 | 0.21 | 0.23 | 0.25 | 0.02 | 0.03 |
| Motor gasoline | 9.32 | 9.33 | 9.58 | 9.24 | 9.01 | 9.51 | 9.80 | 9.64 | 9.75 | 0.11 | 0.00 |
| Jet and kerosene | 1.62 | 1.69 | 1.71 | 1.73 | 1.65 | 1.73 | 1.86 | 1.77 | 1.86 | 0.08 | 0.09 |
| Gasoil/diesel oil | 3.88 | 3.93 | 3.85 | 4.05 | 4.18 | 4.13 | 3.95 | 3.96 | 4.17 | 0.22 | 0.17 |
| Residual fuel oil | 0.33 | 0.34 | 0.31 | 0.34 | 0.28 | 0.32 | 0.25 | 0.34 | 0.31 | -0.03 | -0.03 |
| Other products | 1.86 | 1.90 | 2.03 | 1.89 | 1.78 | 1.86 | 2.10 | 2.02 | 2.25 | 0.23 | 0.24 |
| **Total** | **19.69** | **19.96** | **20.01** | **20.21** | **20.24** | **20.33** | **20.71** | **20.62** | **21.30** | **0.68** | **1.05** |
| **Japan** | | | | | | | | | | | |
| LPG and ethane | 0.42 | 0.39 | 0.34 | 0.39 | 0.46 | 0.35 | 0.32 | 0.32 | 0.31 | -0.01 | -0.04 |
| Naphtha | 0.75 | 0.77 | 0.73 | 0.79 | 0.75 | 0.66 | 0.54 | 0.67 | 0.71 | 0.04 | -0.06 |
| Motor gasoline | 0.90 | 0.88 | 0.94 | 0.89 | 0.84 | 0.85 | 0.86 | 0.93 | 0.97 | 0.05 | -0.01 |
| Jet and kerosene | 0.51 | 0.51 | 0.34 | 0.62 | 0.73 | 0.37 | 0.32 | 0.31 | 0.33 | 0.02 | 0.00 |
| Diesel | 0.44 | 0.43 | 0.43 | 0.44 | 0.43 | 0.44 | 0.46 | 0.45 | 0.44 | -0.01 | 0.03 |
| Other gasoil | 0.35 | 0.35 | 0.31 | 0.37 | 0.40 | 0.29 | 0.29 | 0.28 | 0.28 | -0.01 | -0.02 |
| Residual fuel oil | 0.33 | 0.28 | 0.27 | 0.28 | 0.34 | 0.23 | 0.21 | 0.28 | 0.28 | 0.01 | 0.02 |
| Other products | 0.32 | 0.28 | 0.28 | 0.28 | 0.31 | 0.24 | 0.25 | 0.27 | 0.27 | 0.00 | -0.03 |
| **Total** | **4.01** | **3.89** | **3.63** | **4.06** | **4.27** | **3.43** | **3.24** | **3.50** | **3.60** | **0.09** | **-0.09** |
| **Germany** | | | | | | | | | | | |
| LPG and ethane | 0.10 | 0.13 | 0.13 | 0.12 | 0.11 | 0.12 | 0.13 | 0.12 | 0.11 | -0.01 | -0.02 |
| Naphtha | 0.37 | 0.38 | 0.37 | 0.38 | 0.32 | 0.30 | 0.27 | 0.27 | 0.26 | -0.01 | -0.11 |
| Motor gasoline | 0.42 | 0.43 | 0.44 | 0.42 | 0.45 | 0.45 | 0.46 | 0.44 | 0.45 | 0.01 | 0.01 |
| Jet and kerosene | 0.20 | 0.22 | 0.24 | 0.21 | 0.19 | 0.23 | 0.25 | 0.25 | 0.23 | -0.02 | -0.02 |
| Diesel | 0.76 | 0.76 | 0.78 | 0.76 | 0.70 | 0.74 | 0.75 | 0.74 | 0.78 | 0.05 | -0.01 |
| Other gasoil | 0.36 | 0.37 | 0.35 | 0.36 | 0.41 | 0.25 | 0.22 | 0.25 | 0.29 | 0.04 | -0.04 |
| Residual fuel oil | 0.09 | 0.08 | 0.07 | 0.10 | 0.09 | 0.07 | 0.07 | 0.07 | 0.07 | 0.00 | -0.01 |
| Other products | 0.09 | 0.09 | 0.11 | 0.09 | 0.07 | 0.09 | 0.12 | 0.12 | 0.12 | 0.00 | 0.02 |
| **Total** | **2.38** | **2.46** | **2.49** | **2.43** | **2.33** | **2.26** | **2.28** | **2.26** | **2.32** | **0.06** | **-0.18** |
| **Italy** | | | | | | | | | | | |
| LPG and ethane | 0.10 | 0.10 | 0.09 | 0.11 | 0.12 | 0.09 | 0.08 | 0.09 | 0.09 | 0.00 | 0.00 |
| Naphtha | 0.08 | 0.09 | 0.10 | 0.09 | 0.09 | 0.06 | 0.05 | 0.06 | 0.07 | 0.01 | -0.02 |
| Motor gasoline | 0.17 | 0.16 | 0.17 | 0.15 | 0.15 | 0.17 | 0.18 | 0.18 | 0.18 | 0.00 | 0.00 |
| Jet and kerosene | 0.09 | 0.11 | 0.13 | 0.09 | 0.09 | 0.11 | 0.12 | 0.14 | 0.13 | -0.01 | 0.00 |
| Diesel | 0.47 | 0.47 | 0.46 | 0.48 | 0.50 | 0.50 | 0.52 | 0.52 | 0.48 | -0.04 | 0.03 |
| Other gasoil | 0.08 | 0.08 | 0.08 | 0.09 | 0.07 | 0.08 | 0.09 | 0.09 | 0.08 | -0.01 | 0.01 |
| Residual fuel oil | 0.08 | 0.08 | 0.09 | 0.07 | 0.08 | 0.08 | 0.09 | 0.08 | 0.07 | -0.01 | -0.01 |
| Other products | 0.16 | 0.15 | 0.16 | 0.16 | 0.15 | 0.17 | 0.18 | 0.19 | 0.16 | -0.02 | 0.02 |
| **Total** | **1.24** | **1.24** | **1.27** | **1.25** | **1.25** | **1.27** | **1.29** | **1.34** | **1.26** | **-0.08** | **0.03** |
| **France** | | | | | | | | | | | |
| LPG and ethane | 0.12 | 0.11 | 0.10 | 0.11 | 0.14 | 0.10 | 0.09 | 0.10 | 0.10 | 0.00 | -0.01 |
| Naphtha | 0.11 | 0.11 | 0.11 | 0.08 | 0.12 | 0.14 | 0.14 | 0.15 | 0.15 | 0.00 | 0.02 |
| Motor gasoline | 0.17 | 0.18 | 0.20 | 0.18 | 0.17 | 0.20 | 0.20 | 0.21 | 0.21 | 0.00 | 0.01 |
| Jet and kerosene | 0.15 | 0.16 | 0.18 | 0.15 | 0.15 | 0.17 | 0.17 | 0.19 | 0.19 | -0.01 | 0.00 |
| Diesel | 0.70 | 0.72 | 0.73 | 0.72 | 0.70 | 0.71 | 0.73 | 0.73 | 0.68 | -0.05 | -0.03 |
| Other gasoil | 0.25 | 0.25 | 0.25 | 0.26 | 0.27 | 0.19 | 0.19 | 0.21 | 0.22 | 0.00 | -0.01 |
| Residual fuel oil | 0.04 | 0.05 | 0.05 | 0.05 | 0.06 | 0.05 | 0.04 | 0.05 | 0.05 | -0.01 | -0.01 |
| Other products | 0.12 | 0.12 | 0.13 | 0.11 | 0.10 | 0.13 | 0.16 | 0.15 | 0.13 | -0.02 | 0.02 |
| **Total** | **1.65** | **1.71** | **1.76** | **1.66** | **1.71** | **1.69** | **1.71** | **1.79** | **1.71** | **-0.08** | **0.00** |
| **United Kingdom** | | | | | | | | | | | |
| LPG and ethane | 0.15 | 0.14 | 0.13 | 0.13 | 0.14 | 0.14 | 0.14 | 0.12 | 0.11 | -0.01 | -0.03 |
| Naphtha | 0.03 | 0.03 | 0.03 | 0.03 | 0.03 | 0.02 | 0.02 | 0.02 | 0.03 | 0.00 | 0.00 |
| Motor gasoline | 0.29 | 0.29 | 0.29 | 0.28 | 0.27 | 0.29 | 0.31 | 0.28 | 0.28 | 0.00 | -0.01 |
| Jet and kerosene | 0.32 | 0.32 | 0.33 | 0.33 | 0.34 | 0.33 | 0.32 | 0.32 | 0.35 | 0.03 | 0.04 |
| Diesel | 0.52 | 0.52 | 0.52 | 0.54 | 0.52 | 0.53 | 0.56 | 0.53 | 0.53 | 0.00 | 0.01 |
| Other gasoil | 0.13 | 0.14 | 0.15 | 0.14 | 0.13 | 0.15 | 0.15 | 0.14 | 0.17 | 0.03 | 0.01 |
| Residual fuel oil | 0.03 | 0.03 | 0.03 | 0.03 | 0.03 | 0.02 | 0.03 | 0.03 | 0.03 | 0.00 | 0.00 |
| Other products | 0.12 | 0.12 | 0.13 | 0.12 | 0.11 | 0.12 | 0.12 | 0.12 | 0.13 | 0.00 | 0.00 |
| **Total** | **1.58** | **1.58** | **1.61** | **1.60** | **1.57** | **1.62** | **1.66** | **1.55** | **1.61** | **0.06** | **0.02** |
| **Canada** | | | | | | | | | | | |
| LPG and ethane | 0.41 | 0.39 | 0.35 | 0.43 | 0.42 | 0.30 | 0.24 | 0.37 | 0.29 | -0.08 | -0.05 |
| Naphtha | 0.10 | 0.10 | 0.11 | 0.10 | 0.06 | 0.05 | 0.05 | 0.06 | 0.05 | 0.00 | -0.05 |
| Motor gasoline | 0.84 | 0.85 | 0.89 | 0.84 | 0.78 | 0.83 | 0.84 | 0.87 | 0.88 | 0.01 | -0.04 |
| Jet and kerosene | 0.14 | 0.15 | 0.17 | 0.15 | 0.14 | 0.16 | 0.17 | 0.19 | 0.20 | 0.00 | 0.01 |
| Diesel | 0.30 | 0.29 | 0.29 | 0.29 | 0.26 | 0.27 | 0.27 | 0.25 | 0.26 | 0.00 | -0.03 |
| Other gasoil | 0.28 | 0.27 | 0.29 | 0.30 | 0.28 | 0.29 | 0.31 | 0.33 | 0.34 | 0.01 | 0.02 |
| Residual fuel oil | 0.05 | 0.06 | 0.05 | 0.05 | 0.06 | 0.09 | 0.10 | 0.08 | 0.08 | 0.00 | 0.03 |
| Other products | 0.36 | 0.35 | 0.37 | 0.36 | 0.32 | 0.36 | 0.39 | 0.40 | 0.39 | -0.01 | 0.01 |
| **Total** | **2.47** | **2.45** | **2.52** | **2.52** | **2.32** | **2.34** | **2.37** | **2.55** | **2.48** | **-0.07** | **-0.11** |

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

2 Latest official OECD submissions (MOS).

3 US figures exclude US territories.

# Table 3
# WORLD OIL PRODUCTION
(million barrels per day)

| | 2017 | 2018 | 2019 | 2Q18 | 3Q18 | 4Q18 | 1Q19 | 2Q19 | Aug 18 | Sep 18 | Oct 18 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **OPEC** | | | | | | | | | | | |
| Crude Oil | | | | | | | | | | | |
| Saudi Arabia | 9.96 | | | 10.14 | 10.43 | | | | 10.42 | 10.52 | 10.65 |
| Iran | 3.81 | | | 3.84 | 3.62 | | | | 3.62 | 3.44 | 3.34 |
| Iraq | 4.47 | | | 4.47 | 4.63 | | | | 4.66 | 4.67 | 4.65 |
| UAE | 2.93 | | | 2.88 | 3.00 | | | | 2.98 | 3.05 | 3.21 |
| Kuwait | 2.71 | | | 2.71 | 2.79 | | | | 2.80 | 2.78 | 2.76 |
| Neutral Zone | 0.00 | | | 0.00 | 0.00 | | | | 0.00 | 0.00 | 0.00 |
| Qatar | 0.61 | | | 0.61 | 0.61 | | | | 0.61 | 0.59 | 0.61 |
| Angola | 1.64 | | | 1.49 | 1.48 | | | | 1.47 | 1.50 | 1.50 |
| Nigeria | 1.53 | | | 1.51 | 1.62 | | | | 1.67 | 1.66 | 1.67 |
| Libya | 0.83 | | | 0.89 | 0.90 | | | | 0.98 | 1.06 | 1.12 |
| Algeria | 1.05 | | | 1.03 | 1.06 | | | | 1.06 | 1.07 | 1.07 |
| Congo | 0.26 | | | 0.33 | 0.33 | | | | 0.34 | 0.34 | 0.33 |
| Gabon | 0.20 | | | 0.19 | 0.19 | | | | 0.20 | 0.19 | 0.19 |
| Equatorial Guinea | 0.13 | | | 0.12 | 0.12 | | | | 0.11 | 0.12 | 0.11 |
| Ecuador | 0.53 | | | 0.53 | 0.53 | | | | 0.53 | 0.53 | 0.52 |
| Venezuela | 1.97 | | | 1.39 | 1.29 | | | | 1.29 | 1.27 | 1.26 |
| Total Crude Oil | 32.62 | | | 32.12 | 32.60 | | | | 32.74 | 32.79 | 32.99 |
| Total NGLs[1] | 6.88 | 6.96 | 7.02 | 6.93 | 6.96 | 6.98 | 7.02 | 7.02 | 6.96 | 6.96 | 6.98 |
| **Total OPEC[2]** | **39.49** | | | **39.05** | **39.56** | | | | **39.70** | **39.75** | **39.97** |
| **NON-OPEC[2,3]** | | | | | | | | | | | |
| **OECD** | | | | | | | | | | | |
| **Americas** | 20.32 | 22.58 | 23.89 | 22.16 | 23.15 | 23.23 | 23.58 | 23.70 | 23.45 | 23.16 | 22.97 |
| United States | 13.27 | 15.39 | 16.72 | 15.06 | 15.96 | 16.13 | 16.31 | 16.72 | 16.14 | 16.20 | 16.08 |
| Mexico | 2.23 | 2.10 | 1.99 | 2.12 | 2.07 | 2.04 | 2.02 | 2.00 | 2.06 | 2.07 | 2.05 |
| Canada | 4.82 | 5.09 | 5.17 | 4.97 | 5.12 | 5.06 | 5.25 | 4.98 | 5.25 | 4.89 | 4.84 |
| Chile | 0.01 | 0.01 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.00 | 0.00 |
| **Europe** | 3.49 | 3.38 | 3.34 | 3.37 | 3.30 | 3.27 | 3.41 | 3.30 | 3.28 | 3.14 | 3.25 |
| UK | 1.01 | 1.03 | 1.08 | 1.04 | 0.99 | 1.01 | 1.08 | 1.08 | 0.95 | 0.99 | 0.98 |
| Norway | 1.97 | 1.82 | 1.72 | 1.79 | 1.80 | 1.73 | 1.80 | 1.68 | 1.86 | 1.61 | 1.75 |
| Others | 0.51 | 0.53 | 0.54 | 0.53 | 0.51 | 0.53 | 0.53 | 0.54 | 0.47 | 0.53 | 0.53 |
| **Asia Oceania** | 0.39 | 0.41 | 0.47 | 0.39 | 0.41 | 0.43 | 0.45 | 0.46 | 0.41 | 0.41 | 0.42 |
| Australia | 0.31 | 0.34 | 0.40 | 0.31 | 0.34 | 0.36 | 0.38 | 0.39 | 0.34 | 0.35 | 0.35 |
| Others | 0.07 | 0.07 | 0.07 | 0.07 | 0.07 | 0.07 | 0.07 | 0.07 | 0.07 | 0.07 | 0.07 |
| **Total OECD** | **24.20** | **26.36** | **27.70** | **25.91** | **26.86** | **26.94** | **27.44** | **27.46** | **27.14** | **26.71** | **26.65** |
| **NON-OECD** | | | | | | | | | | | |
| **Former USSR** | 14.34 | 14.61 | 14.98 | 14.47 | 14.65 | 14.90 | 14.98 | 14.98 | 14.48 | 14.80 | 14.78 |
| Russia | 11.36 | 11.55 | 11.89 | 11.38 | 11.65 | 11.81 | 11.83 | 11.86 | 11.59 | 11.75 | 11.79 |
| Others | 2.98 | 3.07 | 3.09 | 3.09 | 3.00 | 3.08 | 3.15 | 3.12 | 2.88 | 3.05 | 2.99 |
| **Asia[2]** | 7.34 | 7.14 | 6.95 | 7.20 | 7.10 | 7.04 | 7.00 | 6.95 | 7.14 | 7.02 | 7.03 |
| China | 3.87 | 3.81 | 3.74 | 3.86 | 3.80 | 3.76 | 3.74 | 3.74 | 3.83 | 3.76 | 3.76 |
| Malaysia | 0.72 | 0.72 | 0.71 | 0.72 | 0.69 | 0.71 | 0.72 | 0.69 | 0.67 | 0.67 | 0.69 |
| India | 0.86 | 0.84 | 0.81 | 0.85 | 0.83 | 0.82 | 0.82 | 0.81 | 0.84 | 0.83 | 0.82 |
| Indonesia | 0.84 | 0.80 | 0.77 | 0.81 | 0.79 | 0.78 | 0.78 | 0.77 | 0.81 | 0.79 | 0.78 |
| Others | 1.06 | 0.98 | 0.93 | 0.97 | 0.98 | 0.96 | 0.95 | 0.93 | 0.98 | 0.97 | 0.97 |
| **Europe** | 0.13 | 0.12 | 0.12 | 0.12 | 0.12 | 0.12 | 0.12 | 0.12 | 0.12 | 0.12 | 0.12 |
| **Americas[2]** | 4.54 | 4.49 | 4.83 | 4.53 | 4.42 | 4.52 | 4.62 | 4.76 | 4.40 | 4.39 | 4.50 |
| Brazil | 2.74 | 2.70 | 3.06 | 2.72 | 2.63 | 2.73 | 2.83 | 2.98 | 2.62 | 2.58 | 2.71 |
| Argentina | 0.57 | 0.58 | 0.58 | 0.58 | 0.58 | 0.58 | 0.58 | 0.58 | 0.58 | 0.59 | 0.58 |
| Colombia | 0.86 | 0.87 | 0.85 | 0.87 | 0.87 | 0.87 | 0.86 | 0.85 | 0.87 | 0.88 | 0.87 |
| Others | 0.37 | 0.35 | 0.34 | 0.37 | 0.34 | 0.34 | 0.34 | 0.34 | 0.32 | 0.34 | 0.34 |
| **Middle East[2,4]** | 1.25 | 1.25 | 1.25 | 1.26 | 1.27 | 1.27 | 1.26 | 1.25 | 1.27 | 1.26 | 1.26 |
| Oman | 0.98 | 0.98 | 0.97 | 0.98 | 0.98 | 0.98 | 0.97 | 0.97 | 0.98 | 0.98 | 0.98 |
| Syria | 0.02 | 0.02 | 0.02 | 0.02 | 0.02 | 0.02 | 0.02 | 0.02 | 0.02 | 0.02 | 0.02 |
| Yemen | 0.03 | 0.04 | 0.04 | 0.04 | 0.04 | 0.04 | 0.04 | 0.04 | 0.04 | 0.04 | 0.04 |
| Others | 0.21 | 0.21 | 0.21 | 0.22 | 0.22 | 0.21 | 0.21 | 0.21 | 0.21 | 0.21 | 0.21 |
| **Africa** | 1.41 | 1.45 | 1.44 | 1.48 | 1.46 | 1.42 | 1.45 | 1.44 | 1.48 | 1.46 | 1.38 |
| Egypt | 0.64 | 0.64 | 0.61 | 0.65 | 0.64 | 0.63 | 0.62 | 0.61 | 0.64 | 0.64 | 0.63 |
| Others | 0.77 | 0.81 | 0.83 | 0.83 | 0.82 | 0.79 | 0.83 | 0.83 | 0.84 | 0.82 | 0.75 |
| **Total Non-OECD** | **29.00** | **29.08** | **29.56** | **29.07** | **29.01** | **29.26** | **29.43** | **29.50** | **28.88** | **29.05** | **29.08** |
| Processing gains[5] | 2.29 | 2.32 | 2.35 | 2.32 | 2.32 | 2.32 | 2.35 | 2.35 | 2.32 | 2.32 | 2.32 |
| Global Biofuels | 2.47 | 2.57 | 2.66 | 2.71 | 2.98 | 2.47 | 2.19 | 2.76 | 2.99 | 2.86 | 2.70 |
| **TOTAL NON-OPEC** | **57.97** | **60.32** | **62.27** | **60.02** | **61.18** | **61.00** | **61.41** | **62.06** | **61.33** | **60.94** | **60.75** |
| **TOTAL SUPPLY** | **97.46** | | | **99.07** | **100.74** | | | | **101.03** | **100.70** | **100.72** |

1 Includes condensates reported by OPEC countries, oil from non-conventional sources, e.g. NGLs in Qatar and Nigeria and non-oil inputs to Saudi Arabian MTBE.
2 Latin America excludes Ecuador throughout. Africa excludes Angola, Congo, Gabon and Equatorial Guinea throughout. Asia includes Indonesia throughout.
3 Comprises crude oil, condensates, NGLs and oil from non-conventional sources
4 Includes small amounts of production from Jordan and Bahrain.
5 Net volumetric gains and losses in refining and marine transportation losses.

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

| | RECENT MONTHLY STOCKS[2] in Million Barrels | | | | | PRIOR YEARS' STOCKS[2] in Million Barrels | | | STOCK CHANGES in mb/d | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | May2018 | Jun2018 | Jul2018 | Aug2018 | Sep2018* | Sep2015 | Sep2016 | Sep2017 | 4Q2017 | 1Q2018 | 2Q2018 | 3Q2018 |
| **OECD Americas** | | | | | | | | | | | | |
| Crude | 592.7 | 572.6 | 563.2 | 565.2 | 572.7 | 585.0 | 623.9 | 625.2 | -0.48 | 0.04 | -0.14 | 0.00 |
| Motor Gasoline | 270.9 | 266.9 | 264.7 | 267.6 | 266.4 | 257.6 | 259.8 | 251.9 | 0.17 | 0.06 | -0.07 | -0.01 |
| Middle Distillate | 185.8 | 191.5 | 199.3 | 205.3 | 210.5 | 220.4 | 237.1 | 210.9 | 0.09 | -0.15 | -0.16 | 0.21 |
| Residual Fuel Oil | 37.6 | 35.3 | 34.7 | 34.1 | 35.0 | 47.4 | 45.2 | 40.4 | -0.06 | 0.06 | -0.06 | 0.00 |
| Total Products[3] | 698.7 | 708.7 | 723.2 | 742.0 | 755.4 | 765.5 | 801.5 | 744.0 | -0.10 | -0.35 | 0.06 | 0.51 |
| Total[4] | 1476.8 | 1471.1 | 1478.3 | 1505.0 | 1531.0 | 1542.4 | 1620.9 | 1571.0 | -0.79 | -0.34 | 0.03 | 0.65 |
| **OECD Europe** | | | | | | | | | | | | |
| Crude | 360.3 | 354.7 | 352.7 | 341.6 | 333.8 | 339.7 | 357.0 | 337.6 | -0.08 | 0.16 | 0.12 | -0.23 |
| Motor Gasoline | 85.3 | 84.1 | 83.6 | 83.5 | 83.3 | 89.5 | 89.9 | 86.9 | 0.13 | -0.03 | -0.14 | -0.01 |
| Middle Distillate | 260.3 | 257.5 | 265.3 | 278.2 | 276.1 | 304.3 | 326.1 | 293.5 | -0.24 | -0.03 | -0.12 | 0.20 |
| Residual Fuel Oil | 62.2 | 60.8 | 61.5 | 60.9 | 59.4 | 69.5 | 70.7 | 58.7 | 0.00 | 0.03 | -0.01 | -0.02 |
| Total Products[3] | 518.4 | 520.9 | 530.5 | 541.4 | 537.5 | 560.2 | 583.0 | 555.1 | -0.13 | 0.03 | -0.27 | 0.18 |
| Total[4] | 961.8 | 958.0 | 964.5 | 961.4 | 946.9 | 969.6 | 1012.7 | 965.2 | -0.24 | 0.25 | -0.13 | -0.12 |
| **OECD Asia Oceania** | | | | | | | | | | | | |
| Crude | 162.7 | 161.8 | 158.5 | 157.8 | 147.4 | 202.2 | 201.5 | 198.2 | -0.10 | -0.31 | 0.01 | -0.16 |
| Motor Gasoline | 26.4 | 24.2 | 24.7 | 23.7 | 24.7 | 23.5 | 24.0 | 23.1 | 0.00 | 0.01 | 0.00 | 0.01 |
| Middle Distillate | 64.0 | 65.3 | 71.6 | 73.0 | 77.1 | 67.0 | 73.7 | 66.4 | -0.04 | -0.01 | 0.04 | 0.13 |
| Residual Fuel Oil | 19.7 | 21.3 | 20.2 | 19.4 | 19.9 | 22.4 | 19.2 | 18.9 | 0.00 | -0.01 | 0.03 | -0.01 |
| Total Products[3] | 164.8 | 164.9 | 172.4 | 173.1 | 184.9 | 175.7 | 186.8 | 172.1 | -0.08 | -0.04 | 0.04 | 0.22 |
| Total[4] | 389.8 | 388.3 | 394.1 | 396.9 | 397.5 | 444.7 | 450.0 | 433.2 | -0.23 | -0.38 | 0.11 | 0.10 |
| **Total OECD** | | | | | | | | | | | | |
| Crude | 1115.7 | 1089.1 | 1074.3 | 1064.6 | 1053.8 | 1126.9 | 1182.3 | 1161.0 | -0.66 | -0.11 | -0.01 | -0.38 |
| Motor Gasoline | 382.6 | 375.1 | 373.0 | 374.8 | 374.4 | 370.6 | 373.7 | 361.8 | 0.30 | 0.05 | -0.20 | -0.01 |
| Middle Distillate | 510.1 | 514.2 | 536.2 | 556.4 | 563.7 | 591.7 | 636.9 | 570.9 | -0.19 | -0.19 | -0.24 | 0.54 |
| Residual Fuel Oil | 119.5 | 117.4 | 116.3 | 114.4 | 114.3 | 139.2 | 135.1 | 118.0 | -0.05 | 0.09 | -0.04 | -0.03 |
| Total Products[3] | 1381.9 | 1394.6 | 1426.0 | 1456.5 | 1477.8 | 1501.3 | 1571.2 | 1471.3 | -0.31 | -0.36 | -0.17 | 0.90 |
| Total[4] | 2828.4 | 2817.4 | 2836.9 | 2863.3 | 2875.4 | 2956.7 | 3083.6 | 2969.4 | -1.26 | -0.46 | 0.01 | 0.63 |

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

| | RECENT MONTHLY STOCKS[2] in Million Barrels | | | | | PRIOR YEARS' STOCKS[2] in Million Barrels | | | STOCK CHANGES in mb/d | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | May2018 | Jun2018 | Jul2018 | Aug2018 | Sep2018* | Sep2015 | Sep2016 | Sep2017 | 4Q2017 | 1Q2018 | 2Q2018 | 3Q2018 |
| **OECD Americas** | | | | | | | | | | | | |
| Crude | 660.2 | 660.0 | 660.0 | 660.0 | 659.3 | 695.1 | 695.1 | 673.6 | -0.12 | 0.03 | -0.06 | -0.01 |
| 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 | 209.3 | 208.6 | 208.1 | 208.2 | 208.2 | 208.1 | 206.3 | 208.0 | -0.02 | 0.02 | 0.01 | 0.00 |
| Products | 272.0 | 273.5 | 274.5 | 271.2 | 270.6 | 256.2 | 268.8 | 267.2 | 0.04 | 0.04 | -0.01 | -0.03 |
| **OECD Asia Oceania** | | | | | | | | | | | | |
| Crude | 383.4 | 383.4 | 383.3 | 383.3 | 383.3 | 381.4 | 385.4 | 385.0 | -0.01 | -0.01 | 0.00 | 0.00 |
| Products | 38.7 | 38.7 | 38.7 | 38.7 | 38.7 | 33.7 | 35.9 | 38.3 | 0.00 | 0.00 | 0.00 | 0.00 |
| **Total OECD** | | | | | | | | | | | | |
| Crude | 1252.9 | 1252.0 | 1251.4 | 1251.5 | 1250.8 | 1284.6 | 1286.8 | 1266.7 | -0.15 | 0.04 | -0.05 | -0.01 |
| Products | 312.7 | 314.2 | 315.2 | 311.9 | 311.4 | 291.9 | 306.6 | 307.5 | 0.04 | 0.04 | -0.01 | -0.03 |
| Total[4] | 1569.1 | 1569.6 | 1569.8 | 1566.6 | 1565.3 | 1580.8 | 1595.7 | 1577.7 | -0.11 | 0.08 | -0.06 | -0.05 |

* estimated

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

2 Closing stock levels.

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

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

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

## Table 5

## TOTAL STOCKS ON LAND IN OECD COUNTRIES[1]

('millions of barrels' and 'days')

| | End September 2017 | | End December 2017 | | End March 2018 | | End June 2018 | | End September 2018 [3] | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Stock Level | Days Fwd[2] Demand | Stock Level | Days Fwd Demand | Stock Level | Days Fwd Demand | Stock Level | Days Fwd Demand | Stock Level | Days Fwd Demand |
| **OECD Americas** | | | | | | | | | | |
| Canada | 185.7 | 74 | 189.2 | 81 | 191.9 | 82 | 190.3 | - | - | - |
| Chile | 12.5 | 35 | 11.5 | 31 | 10.8 | 29 | 12.3 | - | - | - |
| Mexico | 46.5 | 24 | 43.8 | 22 | 47.3 | 23 | 39.1 | - | - | - |
| United States[4] | 1979.8 | 98 | 1896.6 | 94 | 1863.8 | 92 | 1869.2 | - | - | - |
| Total[4] | 2246.6 | 89 | 2163.2 | 86 | 2135.9 | 84 | 2133.1 | 83 | 2192.3 | 86 |
| **OECD Asia Oceania** | | | | | | | | | | |
| Australia | 33.7 | 28 | 34.2 | 29 | 40.3 | 33 | 42.4 | - | - | - |
| Israel | - | - | - | - | - | - | - | - | - | - |
| Japan | 571.3 | 141 | 562.8 | 132 | 538.6 | 157 | 549.4 | - | - | - |
| Korea | 243.5 | 92 | 230.6 | 88 | 213.0 | 84 | 209.6 | - | - | - |
| New Zealand | 8.1 | 46 | 7.4 | 41 | 8.0 | 50 | 8.9 | - | - | - |
| Total | 856.6 | 103 | 835.1 | 98 | 800.0 | 105 | 810.3 | 106 | 819.5 | 100 |
| **OECD Europe[5]** | | | | | | | | | | |
| Austria | 22.1 | 83 | 21.4 | 84 | 23.0 | 83 | 21.2 | - | - | - |
| Belgium | 44.1 | 66 | 41.4 | 59 | 46.2 | 75 | 43.8 | - | - | - |
| Czech Republic | 21.4 | 98 | 21.5 | 108 | 22.7 | 104 | 21.4 | - | - | - |
| Denmark | 23.6 | 146 | 23.4 | 152 | 22.1 | 137 | 22.8 | - | - | - |
| Estonia | 2.2 | 82 | 3.0 | 113 | 2.5 | 81 | 2.6 | - | - | - |
| Finland | 44.7 | 213 | 41.1 | 186 | 41.0 | 190 | 40.8 | - | - | - |
| France | 165.2 | 99 | 165.7 | 97 | 166.0 | 98 | 168.5 | - | - | - |
| Germany | 273.9 | 113 | 278.8 | 119 | 279.9 | 124 | 278.2 | - | - | - |
| Greece | 32.3 | 108 | 32.4 | 116 | 33.3 | 115 | 32.1 | - | - | - |
| Hungary | 26.2 | 150 | 25.4 | 152 | 26.1 | 147 | 25.2 | - | - | - |
| Ireland | 10.1 | 63 | 11.0 | 68 | 11.4 | 73 | 10.0 | - | - | - |
| Italy | 127.7 | 102 | 125.1 | 100 | 125.8 | 99 | 125.4 | - | - | - |
| Latvia | 1.5 | 36 | 2.5 | 67 | 3.1 | 72 | 3.6 | - | - | - |
| Luxembourg | 0.6 | 11 | 0.6 | 10 | 0.6 | 9 | 0.4 | - | - | - |
| Netherlands | 149.7 | 163 | 142.5 | 154 | 147.8 | 159 | 142.4 | - | - | - |
| Norway | 22.0 | 89 | 23.3 | 92 | 27.2 | 126 | 26.4 | - | - | - |
| Poland | 69.2 | 102 | 71.8 | 113 | 75.0 | 111 | 75.7 | - | - | - |
| Portugal | 24.1 | 98 | 22.9 | 99 | 24.8 | 106 | 23.8 | - | - | - |
| Slovak Republic | 12.1 | 126 | 11.4 | 146 | 12.1 | 132 | 11.6 | - | - | - |
| Slovenia | 4.7 | 88 | 5.2 | 99 | 5.1 | 92 | 4.9 | - | - | - |
| Spain | 127.2 | 98 | 119.5 | 91 | 124.7 | 94 | 117.9 | - | - | - |
| Sweden | 42.3 | 131 | 35.6 | 127 | 38.7 | 115 | 37.7 | - | - | - |
| Switzerland | 35.4 | 148 | 33.9 | 159 | 33.1 | 158 | 33.6 | - | - | - |
| Turkey | 83.9 | 80 | 83.2 | 90 | 84.1 | 87 | 90.1 | - | - | - |
| United Kingdom | 77.5 | 48 | 80.1 | 51 | 79.0 | 49 | 83.4 | - | - | - |
| Total | 1443.9 | 100 | 1422.6 | 101 | 1455.1 | 103 | 1443.5 | 99 | 1429.0 | 100 |
| **Total OECD** | **4547.0** | **95** | **4420.8** | **92** | **4391.1** | **93** | **4386.9** | **91** | **4440.7** | **92** |
| **DAYS OF IEA Net Imports[6]** | **-** | **192** | **-** | **187** | **-** | **186** | **-** | **190** | **-** | **-** |

1 Total Stocks are industry and government-controlled stocks (see breakdown in table below). Stocks are primary national territory stocks on land (excluding utility stocks and including pipeline and entrepot stocks where known) they include stocks held by industry to meet IEA, EU and national emergency reserves commitments and are subject to government control in emergencies.

2 Note that days of forward demand represent the stock level divided by the forward quarter average daily demand and is very different from the days of net imports used for the calculation of IEA Emergency Reserves.

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

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

5 Data not available for Iceland.

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

## TOTAL OECD STOCKS

| CLOSING STOCKS | Total | Government[1] controlled | Industry | Total | Government[1] controlled | Industry |
|---|---|---|---|---|---|---|
| | *Millions of Barrels* | | | *Days of Fwd. Demand*[2] | | |
| 3Q2015 | 4538 | 1581 | 2957 | 97 | 34 | 63 |
| 4Q2015 | 4577 | 1588 | 2989 | 98 | 34 | 64 |
| 1Q2016 | 4633 | 1595 | 3039 | 100 | 35 | 66 |
| 2Q2016 | 4668 | 1592 | 3076 | 99 | 34 | 65 |
| 3Q2016 | 4679 | 1596 | 3084 | 99 | 34 | 65 |
| 4Q2016 | 4602 | 1600 | 3002 | 98 | 34 | 64 |
| 1Q2017 | 4630 | 1600 | 3031 | 98 | 34 | 64 |
| 2Q2017 | 4608 | 1588 | 3019 | 97 | 33 | 63 |
| 3Q2017 | 4547 | 1578 | 2969 | 95 | 33 | 62 |
| 4Q2017 | 4421 | 1568 | 2853 | 92 | 33 | 60 |
| 1Q2018 | 4391 | 1575 | 2816 | 93 | 33 | 60 |
| 2Q2018 | 4387 | 1570 | 2817 | 91 | 33 | 59 |
| 3Q2018 | 4441 | 1565 | 2875 | 92 | 33 | 60 |

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

2 Days of forward demand calculated using actual demand except in 3Q2018 (when latest forecasts are used).

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

| | 2015 | 2016 | 2017 | 3Q17 | 4Q17 | 1Q18 | 2Q18 | Jun 18 | Jul 18 | Aug 18 | Year Earlier Aug 17 | Year Earlier change |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Saudi Light & Extra Light** | | | | | | | | | | | | |
| Americas | 0.63 | 0.69 | 0.59 | 0.44 | 0.47 | 0.54 | 0.79 | 0.97 | 0.64 | 0.58 | 0.38 | 0.20 |
| Europe | 0.78 | 0.79 | 0.69 | 0.64 | 0.68 | 0.58 | 0.70 | 0.80 | 0.75 | 0.74 | 0.62 | 0.12 |
| Asia Oceania | 1.25 | 1.40 | 1.56 | 1.56 | 1.53 | 1.50 | 1.42 | 1.40 | 1.33 | 1.49 | 1.62 | -0.13 |
| **Saudi Medium** | | | | | | | | | | | | |
| Americas | 0.37 | 0.44 | 0.33 | 0.28 | 0.27 | 0.20 | 0.28 | 0.26 | 0.27 | 0.49 | 0.29 | 0.21 |
| Europe | 0.03 | 0.01 | 0.01 | 0.01 | 0.02 | 0.02 | 0.01 | - | 0.01 | 0.01 | 0.00 | 0.01 |
| Asia Oceania | 0.44 | 0.41 | 0.37 | 0.41 | 0.41 | 0.40 | 0.42 | 0.42 | 0.35 | 0.45 | 0.35 | 0.10 |
| **Canada Heavy** | | | | | | | | | | | | |
| Americas | 1.90 | 2.04 | 2.23 | 2.21 | 2.17 | 2.33 | 2.48 | 2.61 | 2.40 | 2.44 | 2.24 | 0.21 |
| Europe | 0.01 | 0.01 | 0.02 | 0.03 | 0.04 | 0.03 | 0.04 | 0.02 | 0.04 | 0.04 | 0.02 | 0.03 |
| Asia Oceania | - | - | - | - | - | 0.00 | 0.00 | - | - | - | - | - |
| **Iraqi Basrah Light[2]** | | | | | | | | | | | | |
| Americas | 0.17 | 0.42 | 0.63 | 0.55 | 0.75 | 0.66 | 0.63 | 0.39 | 0.59 | 0.21 | 0.50 | -0.29 |
| Europe | 0.72 | 0.81 | 0.76 | 0.76 | 0.70 | 0.65 | 0.61 | 0.67 | 0.76 | 0.96 | 0.69 | 0.27 |
| Asia Oceania | 0.41 | 0.46 | 0.40 | 0.41 | 0.39 | 0.42 | 0.48 | 0.53 | 0.46 | 0.41 | 0.43 | -0.01 |
| **Kuwait Blend** | | | | | | | | | | | | |
| Americas | 0.13 | 0.14 | 0.11 | 0.04 | 0.03 | 0.03 | 0.04 | 0.11 | - | - | - | - |
| Europe | 0.13 | 0.19 | 0.20 | 0.25 | 0.14 | 0.13 | 0.08 | 0.10 | 0.10 | 0.22 | 0.23 | -0.01 |
| Asia Oceania | 0.65 | 0.66 | 0.68 | 0.67 | 0.67 | 0.68 | 0.66 | 0.58 | 0.64 | 0.67 | 0.68 | -0.01 |
| **Iranian Light** | | | | | | | | | | | | |
| Americas | - | - | - | - | - | - | - | - | - | - | - | - |
| Europe | 0.09 | 0.21 | 0.27 | 0.25 | 0.20 | 0.24 | 0.26 | 0.26 | 0.17 | 0.12 | 0.28 | -0.16 |
| Asia Oceania | 0.01 | 0.01 | 0.01 | 0.02 | 0.01 | 0.02 | 0.01 | 0.01 | 0.01 | 0.01 | - | - |
| **Iranian Heavy[3]** | | | | | | | | | | | | |
| Americas | - | - | - | - | - | - | - | - | - | - | - | - |
| Europe | 0.02 | 0.21 | 0.52 | 0.59 | 0.54 | 0.42 | 0.44 | 0.39 | 0.49 | 0.45 | 0.52 | -0.07 |
| Asia Oceania | 0.27 | 0.52 | 0.57 | 0.57 | 0.54 | 0.49 | 0.36 | 0.32 | 0.38 | 0.23 | 0.51 | -0.28 |
| **BFOE** | | | | | | | | | | | | |
| Americas | 0.01 | 0.02 | 0.02 | 0.02 | 0.01 | - | 0.00 | - | 0.00 | - | 0.02 | - |
| Europe | 0.49 | 0.44 | 0.45 | 0.49 | 0.52 | 0.41 | 0.25 | 0.33 | 0.43 | 0.47 | 0.54 | -0.07 |
| Asia Oceania | 0.06 | 0.05 | 0.10 | 0.09 | 0.14 | 0.09 | 0.09 | 0.07 | 0.06 | 0.13 | 0.07 | 0.06 |
| **Kazakhstan** | | | | | | | | | | | | |
| Americas | 0.00 | 0.01 | - | - | - | - | - | - | - | - | - | - |
| Europe | 0.64 | 0.70 | 0.75 | 0.74 | 0.72 | 0.84 | 0.73 | 0.68 | 0.80 | 0.81 | 0.81 | -0.01 |
| Asia Oceania | 0.06 | 0.03 | 0.10 | 0.15 | 0.13 | 0.13 | 0.19 | 0.18 | 0.28 | 0.20 | 0.21 | -0.01 |
| **Venezuelan 22 API and heavier** | | | | | | | | | | | | |
| Americas | 0.67 | 0.63 | 0.48 | 0.41 | 0.39 | 0.40 | 0.47 | 0.46 | 0.62 | 0.39 | 0.48 | -0.09 |
| Europe | 0.09 | 0.05 | 0.04 | 0.05 | 0.03 | 0.02 | 0.02 | 0.03 | 0.03 | 0.03 | 0.10 | -0.07 |
| Asia Oceania | - | - | - | - | - | - | - | - | - | - | - | - |
| **Mexican Maya** | | | | | | | | | | | | |
| Americas | 0.50 | 0.53 | 0.58 | 0.50 | 0.67 | 0.64 | 0.63 | 0.81 | 0.71 | 0.84 | 0.47 | 0.37 |
| Europe | 0.15 | 0.17 | 0.20 | 0.17 | 0.26 | 0.27 | 0.22 | 0.14 | 0.21 | 0.13 | 0.16 | -0.04 |
| Asia Oceania | 0.01 | 0.05 | 0.07 | 0.07 | 0.10 | 0.06 | 0.10 | 0.09 | 0.15 | 0.03 | 0.11 | -0.08 |
| **Russian Urals** | | | | | | | | | | | | |
| Americas | - | - | 0.01 | 0.02 | 0.01 | - | - | - | - | - | 0.02 | - |
| Europe | 1.61 | 1.72 | 1.64 | 1.68 | 1.67 | 1.38 | 1.46 | 1.36 | 1.38 | 1.45 | 1.61 | -0.15 |
| Asia Oceania | - | - | 0.01 | 0.02 | - | - | 0.01 | - | - | - | 0.03 | - |
| **Cabinda and Other Angola** | | | | | | | | | | | | |
| North America | 0.11 | 0.16 | 0.07 | 0.17 | 0.07 | - | 0.10 | 0.15 | 0.16 | 0.10 | 0.22 | -0.12 |
| Europe | 0.42 | 0.27 | 0.11 | 0.17 | 0.10 | 0.14 | 0.11 | 0.06 | 0.17 | 0.27 | 0.16 | 0.11 |
| Pacific | 0.02 | 0.01 | 0.01 | 0.03 | - | - | 0.00 | 0.01 | - | - | - | - |
| **Nigerian Light[4]** | | | | | | | | | | | | |
| Americas | 0.02 | 0.07 | 0.04 | 0.05 | 0.06 | 0.03 | 0.01 | - | - | - | 0.03 | - |
| Europe | 0.57 | 0.39 | 0.39 | 0.38 | 0.38 | 0.48 | 0.49 | 0.38 | 0.44 | 0.56 | 0.40 | 0.16 |
| Asia Oceania | - | 0.01 | 0.02 | 0.03 | 0.01 | 0.02 | 0.03 | 0.02 | 0.03 | - | 0.02 | - |
| **Libya Light and Medium** | | | | | | | | | | | | |
| Americas | - | - | 0.02 | 0.03 | 0.03 | - | - | - | - | - | - | - |
| Europe | 0.22 | 0.20 | 0.54 | 0.67 | 0.70 | 0.65 | 0.64 | 0.62 | 0.37 | 0.50 | 0.76 | -0.26 |
| Asia Oceania | 0.01 | 0.02 | 0.03 | 0.01 | 0.03 | 0.02 | 0.01 | - | 0.02 | 0.02 | 0.02 | 0.00 |

1 Data based on monthly submissions from IEA countries to the crude oil import register (in '000 bbl), subject to availability. May differ from Table 8 of the Report. IEA Americas includes United States and Canada. IEA Europe includes all countries in OECD Europe except Estonia, Hungary, Slovenia and Latvia. IEA Asia Oceania includes Australia, New Zealand, Korea and Japan.
2 Iraqi Total minus Kirkuk.
3 Iranian Total minus Iranian Light.
4 33° API and lighter (e.g., Bonny Light, Escravos, Qua Iboe and Oso Condensate).

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

| | 2015 | 2016 | 2017 | 3Q17 | 4Q17 | 1Q18 | 2Q18 | Jun 18 | Jul 18 | Aug 18 | Year Earlier Aug 17 | Year Earlier % change |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Crude Oil** | | | | | | | | | | | | |
| Americas | 4026 | 4542 | 4361 | 4289 | 3941 | 3827 | 4085 | 4050 | 4068 | 3899 | 4453 | -12% |
| Europe | 9505 | 9253 | 9711 | 9779 | 9935 | 9502 | 9433 | 9341 | 9920 | 9814 | 9634 | 2% |
| Asia Oceania | 6573 | 6659 | 6842 | 6937 | 6942 | 6849 | 6571 | 6273 | 6783 | 6853 | 7131 | -4% |
| Total OECD | 20103 | 20455 | 20914 | 21005 | 20818 | 20178 | 20089 | 19665 | 20772 | 20566 | 21218 | -3% |
| **LPG** | | | | | | | | | | | | |
| Americas | 10 | 20 | 20 | 15 | 25 | 33 | 14 | 12 | 12 | 16 | 13 | 23% |
| Europe | 418 | 445 | 437 | 421 | 400 | 492 | 469 | 501 | 436 | 412 | 424 | -3% |
| Asia Oceania | 518 | 567 | 549 | 468 | 538 | 595 | 567 | 582 | 442 | 542 | 483 | 12% |
| Total OECD | 947 | 1032 | 1006 | 904 | 963 | 1120 | 1050 | 1095 | 889 | 970 | 920 | 5% |
| **Naphtha** | | | | | | | | | | | | |
| Americas | 14 | 10 | 19 | 18 | 20 | 10 | 5 | 3 | 11 | 3 | 9 | -62% |
| Europe | 345 | 348 | 369 | 363 | 389 | 409 | 368 | 320 | 283 | 313 | 390 | -20% |
| Asia Oceania | 950 | 908 | 981 | 971 | 991 | 1031 | 958 | 883 | 1045 | 922 | 981 | -6% |
| Total OECD | 1309 | 1266 | 1369 | 1353 | 1399 | 1450 | 1331 | 1205 | 1339 | 1238 | 1380 | -10% |
| **Gasoline[3]** | | | | | | | | | | | | |
| Americas | 670 | 735 | 727 | 880 | 560 | 559 | 1060 | 1084 | 977 | 1047 | 841 | 24% |
| Europe | 105 | 100 | 162 | 130 | 224 | 155 | 63 | 99 | 90 | 54 | 152 | -64% |
| Asia Oceania | 91 | 87 | 103 | 96 | 94 | 123 | 123 | 105 | 109 | 105 | 143 | -27% |
| Total OECD | 866 | 922 | 991 | 1106 | 879 | 838 | 1246 | 1288 | 1175 | 1206 | 1136 | 6% |
| **Jet & Kerosene** | | | | | | | | | | | | |
| Americas | 141 | 169 | 171 | 181 | 210 | 131 | 136 | 175 | 179 | 177 | 175 | 1% |
| Europe | 445 | 504 | 506 | 552 | 535 | 426 | 538 | 509 | 622 | 632 | 461 | 37% |
| Asia Oceania | 66 | 73 | 77 | 45 | 87 | 112 | 60 | 38 | 61 | 42 | 26 | 59% |
| Total OECD | 651 | 745 | 754 | 779 | 832 | 669 | 733 | 722 | 862 | 851 | 662 | 28% |
| **Gasoil/Diesel** | | | | | | | | | | | | |
| Americas | 76 | 67 | 77 | 48 | 144 | 179 | 63 | 31 | 93 | 160 | 58 | 174% |
| Europe | 1161 | 1340 | 1381 | 1394 | 1360 | 1403 | 1380 | 1412 | 1564 | 1440 | 1517 | -5% |
| Asia Oceania | 158 | 196 | 195 | 189 | 179 | 214 | 256 | 215 | 257 | 214 | 194 | 10% |
| Total OECD | 1395 | 1602 | 1654 | 1631 | 1684 | 1795 | 1699 | 1658 | 1914 | 1814 | 1769 | 3% |
| **Heavy Fuel Oil** | | | | | | | | | | | | |
| Americas | 116 | 149 | 131 | 153 | 128 | 158 | 161 | 143 | 184 | 197 | 166 | 19% |
| Europe | 537 | 477 | 240 | 299 | 174 | 239 | 227 | 262 | 308 | 282 | 187 | 51% |
| Asia Oceania | 173 | 153 | 146 | 106 | 153 | 192 | 156 | 152 | 103 | 160 | 97 | 65% |
| Total OECD | 826 | 779 | 517 | 559 | 456 | 589 | 544 | 557 | 596 | 639 | 450 | 42% |
| **Other Products** | | | | | | | | | | | | |
| Americas | 675 | 652 | 717 | 722 | 745 | 722 | 658 | 657 | 659 | 719 | 718 | 0% |
| Europe | 701 | 774 | 1009 | 829 | 979 | 1058 | 979 | 1105 | 1283 | 1071 | 896 | 20% |
| Asia Oceania | 345 | 348 | 255 | 238 | 248 | 277 | 250 | 265 | 222 | 294 | 265 | 11% |
| Total OECD | 1721 | 1774 | 1981 | 1788 | 1972 | 2057 | 1886 | 2027 | 2164 | 2083 | 1879 | 11% |
| **Total Products** | | | | | | | | | | | | |
| Americas | 1702 | 1802 | 1862 | 2018 | 1832 | 1793 | 2095 | 2104 | 2115 | 2318 | 1980 | 17% |
| Europe | 3712 | 3988 | 4104 | 3988 | 4062 | 4182 | 4024 | 4207 | 4586 | 4204 | 4026 | 4% |
| Asia Oceania | 2301 | 2331 | 2306 | 2112 | 2292 | 2543 | 2371 | 2241 | 2238 | 2278 | 2190 | 4% |
| Total OECD | 7715 | 8121 | 8272 | 8118 | 8185 | 8517 | 8489 | 8552 | 8938 | 8801 | 8196 | 7% |
| **Total Oil** | | | | | | | | | | | | |
| Americas | 5728 | 6344 | 6223 | 6307 | 5773 | 5620 | 6180 | 6154 | 6183 | 6216 | 6433 | -3% |
| Europe | 13216 | 13241 | 13815 | 13767 | 13996 | 13684 | 13457 | 13549 | 14506 | 14019 | 13660 | 3% |
| Asia Oceania | 8874 | 8991 | 9147 | 9049 | 9234 | 9392 | 8942 | 8514 | 9021 | 9131 | 9321 | -2% |
| Total OECD | 27818 | 28575 | 29186 | 29123 | 29003 | 28695 | 28579 | 28216 | 29710 | 29366 | 29414 | 0% |

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

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## User's Guide and Glossary to the IEA *Oil Market Report*

For information on the data sources, definitions, technical terms and general approach used in preparing the *Oil Market Report (OMR), Market Report Series_Oil* and *Annual Statistical Supplement* (current issue of the Statistical Supplement dated 10 August 2018), readers are referred to the *Users' Guide* at www.oilmarketreport.org/glossary.asp. It should be noted that the spot crude and product price assessments are based on daily Argus prices, converted when appropriate to US$ per barrel according to the Argus specification of products (Copyright © 2018 Argus Media Limited - all rights reserved).

**Next Issue: 13 December 2018**