

# OPEC

## Monthly Oil Market Report

12 April 2017

**Feature article:**  
*Summer oil market outlook*

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# Oil Market Highlights

## Crude Oil Price Movements

The OPEC Reference Basket averaged \$50.32/b in March, representing a decline of 5.7% from the previous month. Crude futures also declined on concerns about growing oil output and high crude inventories in the US. ICE Brent ended 6.2% lower at \$52.54/b, while NYMEX WTI decreased 7.1% to \$49.67/b. The Brent-WTI spread widened to \$2.86/b, supporting US crude oil exports. Hedge funds liquidated their large net long positions in crude, contributing to the sharp drop in oil prices.

## World Economy

The momentum in global economic growth has been improving resulting in an upward revision in the 2017 forecast to now stand at 3.3% from 3.2% previously, while growth for 2016 remains at 3.0%. OECD growth in 2017 remains at 1.9%, with the US and Euro-zone seeing no revisions. Japan's 2017 growth forecast was revised up to 1.2% from 1.1% previously. China's 2017 growth was also revised higher to 6.3% from 6.2%, while India's forecast remains at 7.0%. Russia's 2017 growth was revised up to 1.2% from 1.0%, while the forecast for Brazil is unchanged at 0.5%.

## World Oil Demand

World oil demand growth in 2016 was kept broadly unchanged at 1.38 mb/d, averaging 95.05 mb/d. For 2017, oil demand growth is anticipated to be around 1.27 mb/d, following an upward revision of 10 tb/d to average 96.32 mb/d. The 'Other Asia' group – which includes India – is anticipated to lead oil demand growth in 2017, followed by China and OECD Americas. OECD Asia Pacific is the only region anticipated to see a decline in oil demand in 2017.

## World Oil Supply

Non-OPEC oil supply is estimated to have averaged 57.32 mb/d in 2016, representing a contraction of 0.69 mb/d y-o-y following a minor downward revision of 30 tb/d. In 2017, non-OPEC oil supply is projected to grow by 0.58 mb/d, following an upward revision of 176 tb/d due to higher than expected growth in the US and lesser contractions in Colombia and China, to average 57.89 mb/d. The US supply growth forecast was revised up by 0.20 mb/d to stand at 0.54 mb/d. OPEC NGLs and non-conventional oil production is forecast to grow by 0.13 mb/d in 2017, following growth of 0.14 mb/d in 2016. In March, OPEC production decreased by 153 tb/d, according to secondary sources, to average 31.93 mb/d.

## Product Markets and Refining Operations

Product markets exhibited a mixed performance in the Atlantic Basin, as the lack of export opportunities for gasoline amid increasing inflows of middle distillates impacted the European market. Meanwhile, stronger domestic gasoline demand in the US ahead of the transition to summer grades lent strong support to refinery margins. In Asia, the lack of arbitrage amid increasing inflows into the region weighed on the market despite the onset of the spring refinery maintenance season.

## Tanker Market

The tanker market showed a mixed pattern in March. VLCCs exhibiting an average decline of 23% m-o-m in spot rates on its various trading routes, as the tonnage availability remained abundant. In contrast, Suezmax and Aframax rates increased m-o-m by 13%, and 6%, respectively, mainly due to transit delays in the Turkish Straits, discharge delays in the east, and occasional tightening in tonnage supply. The market experienced higher monthly freight rates for clean tankers on most reported routes.

## Stock Movements

Total OECD commercial oil stocks fell in February to 2,987 mb to now stand 268 mb above the latest five-year average. Crude and product stocks indicated a surplus of around 227 mb and 41 mb, respectively. In terms of days of forward cover, OECD commercial stocks stood at 64.2 days, some 4.6 days higher than the latest five-year average.

## Balance of Supply and Demand

Demand for OPEC crude in 2016 now stands at 31.7 mb/d, which is 1.9 mb/d higher than the 2015 level. In 2017, demand for OPEC crude is projected at 32.2 mb/d, around 0.6 mb/d higher than the 2016 level.



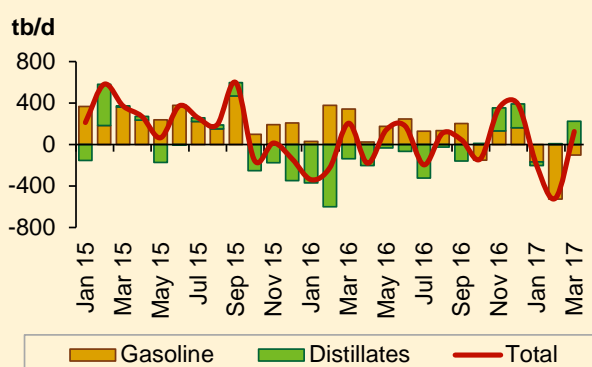
## Feature Article

### Summer oil market outlook

Product markets and refinery margins, particularly in the Atlantic basin, were impacted in 2016 by the high level of inventories worldwide. Additionally, the increase in crude oil prices and the deceleration in diesel demand growth, mainly in China and the US, capped refinery margins. In general, product crack spreads struggled to recover in the latter part of the year as the colder winter weather failed to boost prices.

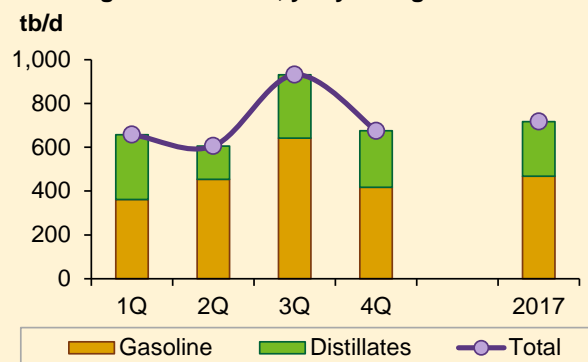
The US is typically a key driver of product markets in the run-up to the summer driving season. Despite weakness at the beginning of 2017, the US gasoline market has seen some recovery in recent weeks (see **Graph 1**). After slowing by 170 tb/d y-o-y in January, US gasoline demand has been on the rise, averaging more than 9.3 mb/d in March, according to preliminary EIA weekly data. Another positive factor has been the continued decline in US gasoline inventories, which have fallen by around 20 million barrels since the end of January. Heavy refinery maintenance and higher exports to Latin America have contributed to these draws.

**Graph 1: US product consumption, y-o-y change**



Note: 2017 data based on weekly average.  
Sources: US EIA and OPEC Secretariat.

**Graph 2: Global gasoline and distillates quarterly demand growth in 2017\*, y-o-y change**



Note: \* 2017 = Forecast.  
Sources: US EIA and OPEC Secretariat.

Middle distillates have also started to show a positive performance in the US. A continued draw has been seen in inventories amid demand reaching more than 4 mb/d in March following growth of 240 tb/d y-o-y. Outside the US, the middle distillates market has experienced some recovery from the slump seen last year in several regions. Demand has picked up since 4Q16 and is expected to continue to recover over the coming months, supported by the improving economic performance, particularly in Asia where manufacturing PMIs have moved higher not only in India and China but also in Vietnam and the Philippines. Gasoil demand in China is expected to be supported by higher investments in infrastructure and increasing mining activities. Healthy economic activities in Asia will have a positive impact on all products in the region – particularly gasoil – in the coming months. In Europe, gasoil consumption has also improved due to the improving economy across large parts of the continent, colder weather during the first quarter of 2017, and the high growth in vehicle sales. However, this momentum is not expected to continue over the remainder of the year. As a result, global gasoline and distillate demand is forecast to grow by around a combined 718 tb/d in 2017 (see **Graph 2**).

Despite some downside risks, general expectations for demand growth for oil products in the coming months remain bullish, supported by firm economic performance across the globe and the expected increase in demand for gasoline over the driving season, mainly in North America and Asia. Higher demand for oil products will encourage refiners to maximise throughputs following the end of the spring maintenance season, amid new capacity coming on line in North America, Middle East and Asia. This in turn will increase demand for crude oil over the coming months and already has for long haul crude oil deliveries. The return of refineries from seasonal maintenance and healthy demand, together with the high conformity observed in OPEC and non-OPEC production adjustments, should enhance market stability and reduce the volatility seen in recent weeks.



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## Crude Oil Price Movements

*After three consecutive months of significant gains, the OPEC Reference Basket ended March 5.7% lower at \$50.32/b, on the back of rising crude oil production and crude inventories. Nevertheless, it ended the first quarter of 2017 (1Q17) up sharply. Year-to-date (Y-t-d), the ORB value was also significantly higher, by 72%, or \$21.79, at \$51.95/b.*

*Oil futures on both sides of the Atlantic were down m-o-m, but were up for the quarter and the year. Many speculators exited from record high positions on the futures markets as investors contended with worries about growing US oil output and high US crude oil inventories. ICE Brent ended March \$3.46, or 6.2%, lower, at \$52.54/b, while NYMEX WTI decreased \$3.79, or 7.1%, to \$49.67/b. In contrast, ICE Brent and NYMEX WTI ended the 1Q17 higher at \$54.57/b and \$51.78/b, respectively. Y-t-d, ICE Brent is \$19.37, or 55% higher, while NYMEX WTI has surged \$18.16, also 54% higher.*

*The ICE Brent/NYMEX WTI spread widened amid increases in US tight crude oil production and a record build in US oil crude stocks. In contrast, supply disruptions and arbitrage opportunities sustained the Brent market. The spread widened to \$2.86/b, supporting US exports.*

*Net positions in ICE Brent and NYMEX WTI have been adjusted to 617 mb, down from a record 921 mb in early February. The ratio of long to short positions fell to around 4:1, down from a high of 10:1.*

*The Brent contango structure narrowed further as tighter supply and arbitrage sales supported prompt prices relative to forward prices. Dubai and WTI stayed in contango amid ample supplies and higher inventories.*

*The sweet/sour differentials narrowed further in Asia and the US Gulf Coast, while in Europe it widened despite less OPEC supplies.*

## OPEC Reference Basket

The **OPEC Reference Basket** (ORB) ended the month lower after three consecutive months of significant gains. Nevertheless, on average, it ended the 1Q17 up sharply on positive market momentum that started late 2016 following efforts by OPEC and 11 Non-OPEC producers to address an oil glut that has weighed on the market for more than two years. For the month of March, the ORB closed at its lowest value since November 2016 on rising crude oil production and crude oil stocks in the US, which weighed on global oil prices for most of the month. However, supply disruptions offset some of this downward pressure. Oil prices in the 1Q17 have been locked within a range as growing US crude inventories, US oil drilling activity and a hefty refinery seasonal maintenance have been counterbalanced by production adjustments elsewhere in the world.

Month-on-month (M-o-m), the ORB value slipped \$3.05 to settle at \$50.32/b on a monthly average, down 5.7%. For the 1Q17, it gained \$4.43, or 9.3%, to reach \$51.95/b. Compared to the previous year, the ORB value was significantly higher, by 72%, or \$21.79, to stand at \$51.95/b.

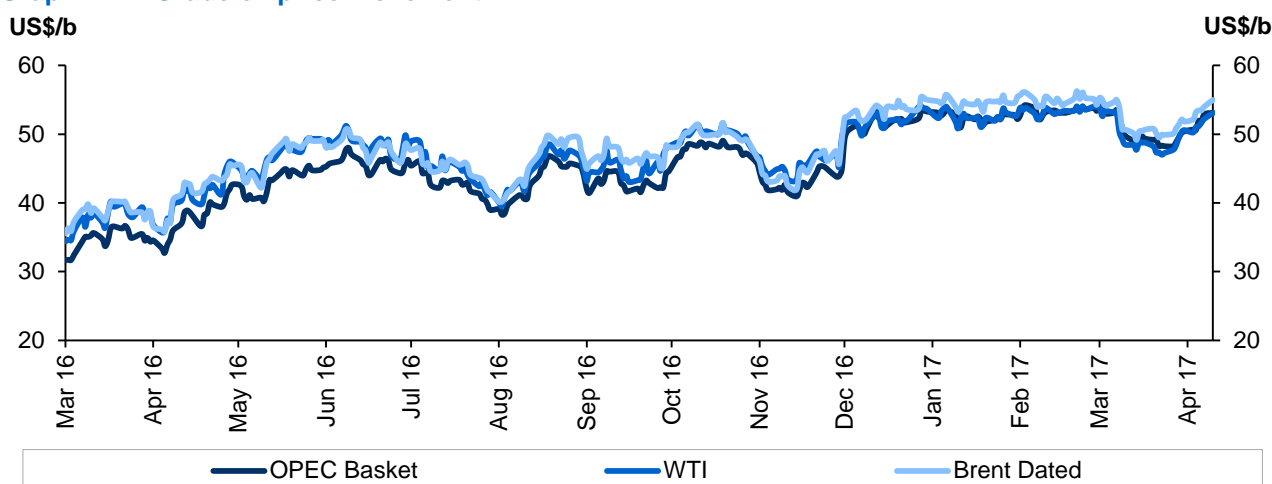
Table 1 - 1: OPEC Reference Basket and selected crudes, US\$/b

Basket	Feb 17	Mar 17	Change		Year-to-date	
			Mar/Feb	%	2016	2017
<b>Basket</b>	<b>53.37</b>	<b>50.32</b>	<b>-3.05</b>	<b>-5.7</b>	<b>30.16</b>	<b>51.95</b>
Arab Light	53.63	50.68	-2.95	-5.5	30.16	52.13
Basrah Light	52.66	49.82	-2.84	-5.4	28.61	51.31
Bonny Light	55.24	51.91	-3.33	-6.0	33.92	53.96
Es Sider	53.46	50.00	-3.46	-6.5	33.10	52.10
Girassol	55.21	51.89	-3.32	-6.0	33.76	53.75
Iran Heavy	53.16	50.27	-2.89	-5.4	28.41	51.71
Kuwait Export	52.85	49.87	-2.98	-5.6	28.11	51.33
Qatar Marine	54.14	50.89	-3.25	-6.0	30.83	52.74
Meray	47.03	44.14	-2.89	-6.1	22.80	45.92
Murban	56.31	52.96	-3.35	-5.9	35.45	55.00
Oriente	50.08	46.83	-3.25	-6.5	26.92	48.44
Rabi Light	54.04	50.63	-3.41	-6.3	33.10	52.52
Sahara Blend	55.06	51.40	-3.66	-6.6	34.85	53.67
<b>Other Crudes</b>						
Dated Brent	55.06	51.60	-3.46	-6.3	34.10	53.66
Dubai	54.41	51.21	-3.20	-5.9	30.67	53.03
Isthmus	56.09	52.26	-3.83	-6.8	31.53	54.35
LLS	55.15	51.36	-3.79	-6.9	35.22	53.43
Mars	51.30	47.88	-3.42	-6.7	30.09	49.58
Minas	51.19	48.35	-2.84	-5.5	31.74	49.98
Urals	53.67	49.94	-3.73	-6.9	32.49	52.25
WTI	53.40	49.58	-3.82	-7.2	33.36	51.73
<b>Differentials</b>						
Brent/WTI	1.66	2.02	0.36	-	0.74	1.93
Brent/LLS	-0.09	0.24	0.33	-	-1.12	0.23
Brent/Dubai	0.65	0.39	-0.26	-	3.43	0.63

Sources: Argus Media, Direct Communication, OPEC Secretariat and Platts.

**ORB component values** dropped across the board along with relevant crude oil benchmarks, along with the monthly changes in their respective official selling price (OSP) differentials. The crude oil physical benchmarks, namely Dated Brent, Dubai and WTI spot prices declined in March by \$3.46/b, \$3.20/b and \$3.82/b, respectively.

Graph 1 - 1: Crude oil price movement



Sources: Argus Media, OPEC Secretariat and Platts.

Despite late March light sweet crudes supply turmoil and open arbitrage to Asia, plentiful Atlantic basin supply continued to pressure the price differentials for light sweet crudes from West and North African Basket components. Saharan Blend, Es Sider, Girassol, Bonny Light and Rabi Light values slipped \$3.44/b on average, or 6.3%, to \$51.17/b. Physical crude differentials for these grades have come under renewed pressure as supply surged. Given the drop in crude oil benchmarks more than outweighed the uplift in OSP offsets and the healthy global sour markets, the value of multiple regions destination grades, Arab Light, Basrah Light, Iran Heavy and Kuwait Export decreased \$2.91/b on average for the month, or 5.5% to \$50.16/b. The Middle Eastern spot components, Murban and Qatar Marine, saw their values deteriorate by \$3.30/b, or 6.0%, to \$51.93/b. The Latin American ORB components, Venezuelan Merey settled \$2.89, or 6.1% lower, at \$44.14/b. Ecuador's Oriente also slipped \$3.25, or 6.5%, to settle at \$46.83/b.

On 11 April, the ORB was up 23¢ at \$53.36/b, over \$3.04 above the March average.

## The oil futures market

For the first time this year, oil futures on both sides of the Atlantic were down m-o-m, but were up sharply for the quarter and the year. Both fell to their lowest monthly value since November 2016. Crude oil futures dropped over the month on concerns about the pace of the decline in the global crude glut and seasonal refinery maintenance. Amid worries about the pace and timing of the expected balanced market, speculators exited from record high positions on the futures markets as investors contended with bearish market fundamentals, focused mainly on growing US oil output and high US crude oil inventories.

Rising US domestic production, lower exports and seasonal lower refiner runs boosted US crude stocks to a record high of just over 534 mb in the last week of March. Some of the stock build took place at Cushing, Oklahoma, the midcontinent pricing point of WTI, where inventories are also near record highs. The US oil rig count reached 662 in the week to 31 March, up from 362 active oil rigs during the same week a year ago. The rig count increase came despite a collapse in US crude futures over the month. US tight crude oil production is expected to rise by 109 tb/d to 4.96 mb/d in April, its biggest monthly increase since October, according to a US Energy Information Administration report.

**ICE Brent** ended March \$3.46 lower, a drop of 6.2%, to stand at \$52.54/b on a monthly average basis, while **NYMEX WTI** decreased a hefty \$3.79, or 7.1%, to stand at \$49.67/b. In contrast, ICE Brent ended 1Q17 \$3.51 higher, an increase of 6.9%, to reach \$54.57/b on average, while NYMEX WTI increased \$2.49, or 5.1%, to reach \$51.78/b. Y-t-d, ICE Brent is \$19.37, or 55% higher, while NYMEX WTI surged \$18.16, or 54% higher.

Crude oil futures prices improved in the second week of April. On 11 April, ICE Brent stood at \$56.23/b and NYMEX WTI at \$53.40/b.

**Table 1 - 2: Crude oil futures, US\$/b**

	Feb 17	Mar 17	Change		Year-to-date	
			Mar/Feb	%	2016	2017
<b>NYMEX WTI</b>	53.46	49.67	-3.79	-7.1	33.63	51.78
<b>ICE Brent</b>	56.00	52.54	-3.46	-6.2	35.21	54.61
<b>Transatlantic spread</b>	<b>2.53</b>	<b>2.86</b>	<b>0.33</b>	<b>0.91</b>	<b>1.58</b>	<b>2.83</b>

*Note: Totals may not add up due to independent rounding.*

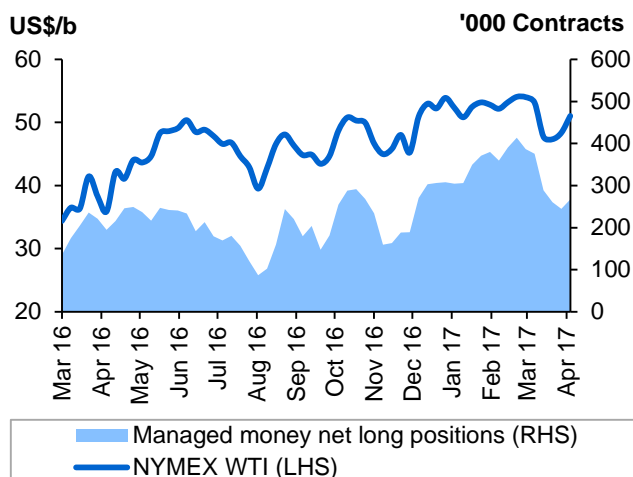
*Sources: CME Group, Intercontinental Exchange and OPEC Secretariat.*

With the market heading into peak seasonal refinery maintenance, hedge funds liquidated their large bullish position in crude, contributing to the sharp drop in oil prices starting on 8 March. By 28 March, the net position of hedge funds in ICE Brent and NYMEX WTI had been adjusted to 617 mb, down from a record 921 mb on 21 February. This development reversed more than half of the extra net long positions accumulated between the middle of November and the end of February. In the five weeks to 28 March, hedge funds adjusted long positions by 167 mb, while adding 137 mb on the short side. The result is that the ratio of long to short positions in Brent and WTI has fallen to 3.8:1, down from a recent high of 10.3:1 on 21 February. Speculative net length in NYMEX WTI dropped 169,022 contracts, or 41%, from its level the week of 21 February, to 244,615 contracts in the week to 28 March. Similarly, in ICE Brent futures and options, speculators adjusted net long positions by 134,853 contracts, or 27%, to 372,756 lots. The total

## Crude Oil Price Movements

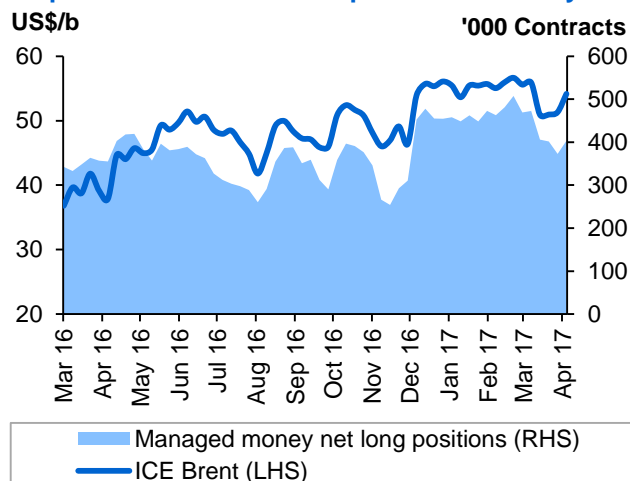
futures and options open interest volume in the two exchanges increased by 5%, or 287,698 contracts, to 5.86 million contracts, with the net length positions share dropping from last month when it reached its highest level since July 2014, back when WTI was trading in triple digits.

**Graph 1 - 2: NYMEX WTI vs. Speculative activity**



Sources: CFTC and CME Group.

**Graph 1 - 3: ICE Brent vs. Speculative activity**



Source: IntercontinentalExchange.

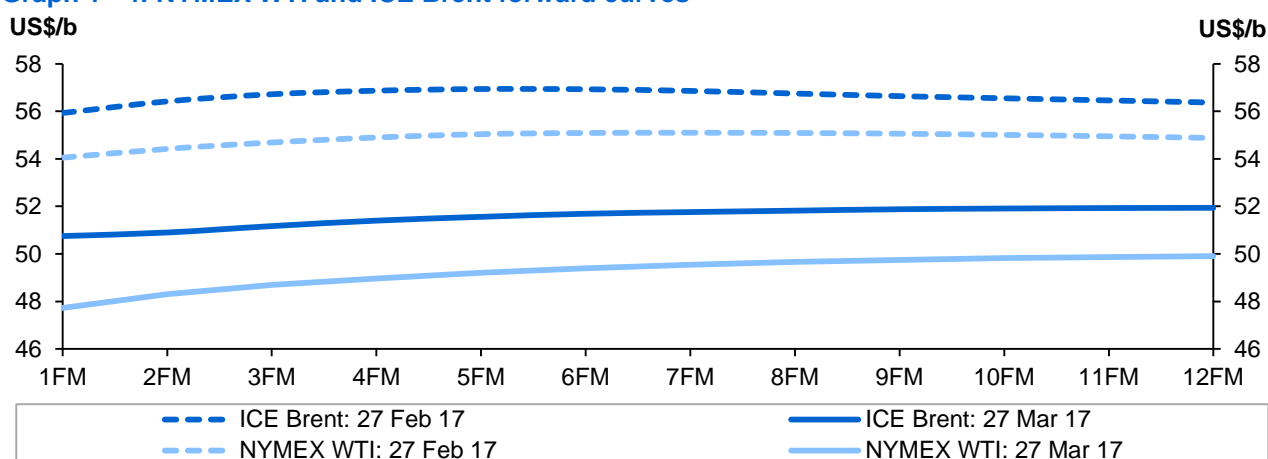
The **daily average traded volume** for NYMEX WTI contracts increased 68,217 lots, or 6.3%, to 1,148,555 contracts, while that of ICE Brent was 39,185 contracts higher, up 4.4% at 933,626 lots. The daily aggregate traded volume for both crude oil futures markets rose 107,401 contracts to 2.08 million futures contracts, or near 2.1 bb/d of crude oil. The total traded volume NYMEX WTI futures in March was significantly higher at 26.42 million contracts, up 28.7%. Similarly, ICE Brent futures volumes increased 20% to 21.47 million contracts.

## The futures market structure

The previous month saw a noticeable easing of the prolonged contango structure as the result of the ongoing voluntary production adjustments from OPEC and 11 non-OPEC nations. In March, this trend has continued in Brent, but reversed course in Dubai and WTI. The Brent contango has narrowed further, as tighter supply, arbitrage sales and production outages in Libya underpinned prompt prices relative to forward prices. After flipping into backwardation during the last trading session in the previous month, Dubai stayed in contango for the entirety of March. In the US, consecutive weeks of inventory builds worsened the WTI crude contango structure. Meanwhile, further down the futures curve, backwardation remained noticeable for all crudes, albeit now further out in 1Q18 compared to last month, when the oil market is expected to start balancing.

The **Dubai** contango worsened on lower demand in Asia as several refineries were shut for maintenance. The Dubai M1 20¢/b discount to M3, increased to 25¢/b. The **North Sea Brent** contango narrowed more, where the M1/M3 discount decreased to 50¢/b on average, from 63¢/b in the previous month. In the US, the **WTI** contango worsened 11¢/b as WTI's (M1-M3) widened to 98¢/b.

Graph 1 - 4: NYMEX WTI and ICE Brent forward curves



Note: FM = future month.

Sources: CME Group and Intercontinental Exchange.

The **ICE Brent/NYMEX WTI spread** widened amid increases in US shale oil production and a record build in US crude oil stocks. In contrast, light sweet crude supply disruptions in the Atlantic Basin and arbitrage opportunities to Asia supported the Brent market. The first-month ICE Brent/NYMEX WTI \$2.53/b spread widened to \$2.86/b, up 33¢. This is supported by the arbitrage economics out of the US, particularly to Asia, where several US cargoes were sold to China and elsewhere.

Table 1 - 3: NYMEX WTI and ICE Brent forward curves, US\$/b

		1FM	2FM	3FM	6FM	12FM	12FM-1FM
<b>NYMEX WTI</b>	27 Feb 17	54.05	54.42	54.69	55.09	54.88	0.83
	27 Mar 17	47.73	48.30	48.69	49.39	49.91	2.18
	<b>Change</b>	<b>-6.32</b>	<b>-6.12</b>	<b>-6.00</b>	<b>-5.70</b>	<b>-4.97</b>	<b>1.35</b>
<b>ICE Brent</b>	27 Feb 17	55.93	56.42	56.72	56.93	56.37	0.44
	27 Mar 17	50.75	50.90	51.17	51.69	51.94	1.19
	<b>Change</b>	<b>-5.18</b>	<b>-5.52</b>	<b>-5.55</b>	<b>-5.24</b>	<b>-4.43</b>	<b>0.75</b>

Note: FM = future month.

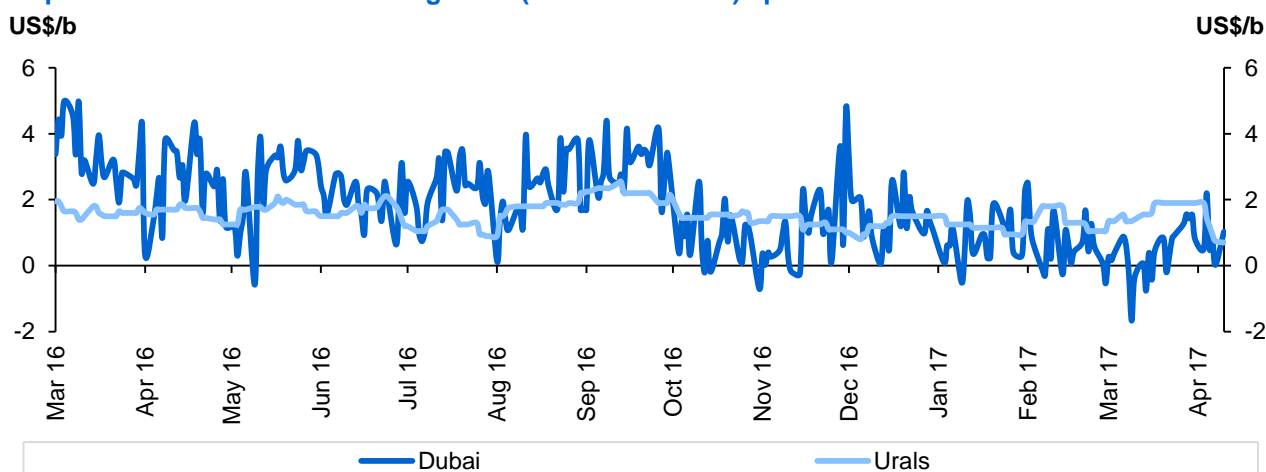
Sources: CME Group and Intercontinental Exchange.

## The light sweet/medium sour crude spread

For the second month in a row, the sweet/sour differentials narrowed further in Asia and the US Gulf Coast (USGC), while in Europe it widened despite less OPEC supplies.

In **Europe**, the light sweet North Sea Brent premium to Urals medium sour crude increased by 27¢ to \$1.66/b in March. Urals came under pressure from plentiful supply, especially in NWE, due to the spring maintenance season at Russian domestic refineries. On the other hand, North Sea crudes found support from larger volume of crude heading out of the region to Asia and production disruptions in Libya.

**Graph 1 - 5: Brent Dated vs. Sour grades (Urals and Dubai) spread**



Sources: Argus Media, OPEC Secretariat and Platts.

In **Asia**, the Tapis premium over Dubai shrank further by 23¢ on a monthly average basis to \$2.55/b, under pressure from ample supplies of light sweet crude available to refiners. Dated Brent/Dubai spread also narrowed 26¢, to 39¢/b, its narrowest since the summer of 2015. Lower Middle Eastern sour crude supplies, on the back of the sizeable OPEC and non-OPEC voluntary production adjustment, helped the Dubai market. The Asia-Pacific light sweet crudes, such as Tapis, are also being pressured again by a narrowing Brent-Dubai spread, which encourages the arbitrage flow of Brent related light sweet crudes to the region, particularly West African grades. This month also witnessed arbitrage volume movements from the Americas to Asia.

In the **USGC**, the LLS premium over medium sour Mars narrowed to \$3.48/b, its narrowest in two and a half years. Sour crudes firmed on increased demand for export and USGC refinery demand due to less availability of Mideast Gulf sour crudes. The high USGC sour crude prices helped draw in alternative Latin American cargoes, which are also going to the Asia-Pacific, as reduced Middle East sour crude exports boosts interest in alternatives.

# Commodity Markets

*In March, average prices for energy and non-energy commodities were generally down. In the group of energy, crude oil prices showed their first decline since November 2016, while natural gas and coal were mixed across regions. In non-energy commodities, the decline of agricultural prices was led by the expectation of larger supplies of soybeans, corn, wheat and sugar from South America, while metal commodity prices were weak on receding concerns of supply disruptions from Chile and the Philippines. Precious metals declined at the beginning of the month, but recovered thereafter on concerns about the ability of the new US Administration to move forward growth-enhancing legislation.*

## Trends in selected commodity markets

**Commodity prices** were under pressure in the first half of the month as interest rate expectations in the US increased sharply in the run-up to the US Federal Reserve (Fed) meeting. Nonetheless, market participants' expectations of rate hikes were reduced thereafter, as a moderate path of interest rate increases was implied by the Fed. A further reduction in interest rate expectations resulted from the difficulties experienced by the new US Administration to move forward healthcare legislation, which signalled difficulties ahead of the expected tax reform and infrastructure investment boost, both of which have supported commodity prices, especially the group of metals. However, metals continue to be supported by expansion in global manufacturing as shown by the JP Morgan Global manufacturing PMI readings, which remained at a 69-month high.

**Agricultural commodities** were generally down, with large declines in food and raw material groups. The US Department of Agriculture increased its forecast of ending stocks for the current marketing year of corn, wheat and soybeans on higher expected output from South America. Brazilian corn and soybean output are expected to reach records, rising by 36% and 12%, respectively, in comparison to the previous year. With plentiful oilseed supplies, vegetable oil prices were weak as well, including palm oil prices. Prospects of higher Sugar output in Brazil also translated into lower prices. In the group of raw materials, natural rubber declined sharply on rising stocks in China and lower oil prices.

**Base metal prices** declined as previous concerns of supply disruptions faded after striking workers returned to operations in the world's two largest copper mines, the Escondida mine in Chile and the Grasberg mine in Indonesia, after an agreement was reached between the operator Freeport McMoRan and the government. At the same time, copper inventories in the LME warehouse system increased by 44% during the month. Nickel prices dropped on the prospect of higher nickel ore supplies from Indonesia after the government granted some export permits in January, and the Philippines, where the policymaker that has led the environmental crackdown has faced difficulties to be confirmed by the country's congress. However, metals were supported by the continuing expansion of manufacturing activities of the largest consumer China, albeit at a slower pace than the previous month – manufacturing PMI at 51.2 in March versus 51.7 in February. Furthermore, despite government tightening measures, home price increased in 56 of the 70 largest cities in February compared to 45 cities in January – according to the National Bureau of Statistics.

In the group of **energy commodities**, oil prices declined on persistent oversupply. Natural gas prices advanced in the US due to colder-than-average weather in mid-March, which translated into higher-than-average withdrawals from inventories. In Europe, hub prices declined due to warmer-than-average temperatures, while term prices were relatively stable. EU-28 Inventories reported by Gas Infrastructure Europe were at 29.4% of capacity at the end of March versus 25.4% the previous month. Australian thermal coal prices were stable despite higher output in China after mining restrictions were lifted. Yet, mine shutdowns due to a cyclone in Australia supported prices at the end of the month.

Table 2 - 1: Commodity price data

Commodity	Unit	Monthly averages			% Change Mar 17/Feb 17	Year-to-date	
		Jan 17	Feb 17	Mar 17		2016	2017
<b>Energy*</b>		<b>68.9</b>	<b>69.4</b>	<b>65.3</b>	<b>-5.9</b>	<b>43.0</b>	<b>67.9</b>
Coal, Australia	US\$/mt	83.7	80.4	80.6	0.3	50.9	81.6
Crude oil, average	US\$/b	53.6	54.4	50.9	-6.3	32.7	52.9
Natural gas, US	US\$/mbtu	3.3	2.8	2.9	1.9	2.0	3.0
<b>Non-energy*</b>		<b>85.5</b>	<b>86.6</b>	<b>85.0</b>	<b>-1.8</b>	<b>76.1</b>	<b>85.7</b>
<b>Agriculture*</b>		<b>91.3</b>	<b>91.4</b>	<b>89.3</b>	<b>-2.3</b>	<b>84.5</b>	<b>90.7</b>
<b>Food*</b>		<b>95.2</b>	<b>95.1</b>	<b>92.8</b>	<b>-2.5</b>	<b>86.7</b>	<b>94.4</b>
Soybean meal	US\$/mt	382.0	383.0	369.0	-3.7	328.0	378.0
Soybean oil	US\$/mt	872.0	835.0	813.0	-2.6	748.7	840.0
Soybeans	US\$/mt	425.3	427.0	405.0	-5.2	370.3	419.1
<b>Grains*</b>		<b>79.0</b>	<b>79.1</b>	<b>78.4</b>	<b>-0.9</b>	<b>84.4</b>	<b>78.9</b>
Maize	US\$/mt	160.0	162.9	159.0	-2.4	159.9	160.6
Wheat, US, HRW	US\$/mt	153.3	155.2	154.3	-0.6	190.5	154.3
Sugar, world	US\$/kg	0.4	0.4	0.4	-10.9	0.3	0.4
<b>Base metal*</b>		<b>79.1</b>	<b>81.8</b>	<b>81.4</b>	<b>-0.6</b>	<b>63.8</b>	<b>80.7</b>
Aluminum	US\$/mt	1,791.2	1,860.8	1,901.5	2.2	1,514.5	1,851.2
Copper	US\$/mt	5,754.6	5,940.9	5,824.6	-2.0	4,674.7	5,840.0
Iron ore, cfr spot	US\$/dmu	80.0	89.0	88.0	-1.1	48.3	85.7
Lead	US\$/mt	2,242.6	2,311.5	2,280.9	-1.3	1,738.0	2,278.3
Nickel	US\$/mt	9,971.5	10,643.3	10,204.7	-4.1	8,507.7	10,273.1
Tin	US\$/mt	20,691.8	19,446.5	19,875.2	2.2	15,438.6	20,004.5
Zinc	US\$/mt	2,714.8	2,845.6	2,776.9	-2.4	1,677.3	2,779.1
<b>Precious metals*</b>		<b>93.6</b>	<b>97.3</b>	<b>96.7</b>	<b>-0.6</b>	<b>90.9</b>	<b>95.9</b>
Gold	US\$/toz	1,192.1	1,234.2	1,231.4	-0.2	1,180.9	1,219.2
Silver	US\$/toz	16.9	17.9	17.6	-1.7	14.9	17.5

Note: \* World Bank commodity price indices (2010 = 100).

Source: World Bank, Commodity price data.

Average **energy prices** in March decreased by 5.9% m-o-m due to a 6.3% drop in average crude oil prices, while natural gas prices in the US advanced by 1.9% m-o-m, but retreated in Europe by 14.5% due to falling hub-based prices. Meanwhile, Australian benchmark thermal coal prices were up slightly by 0.3%.

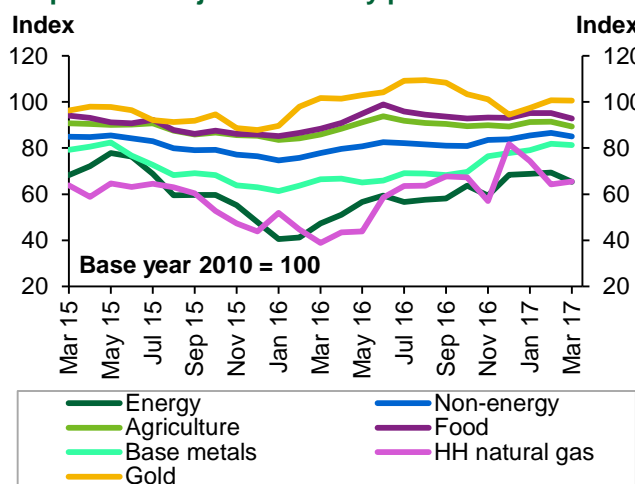
**Agricultural prices** declined by 2.3% in March, with average food prices dropping by 2.5%. Sugar, soybeans and palm oil declined by 10.9%, 5.2% and 4.9%, respectively. Raw material prices were down by 2.7% due to a decline of 11.9% in natural rubber prices.

Average **base metal prices** decreased by 0.6% in March, led by a 2.0% monthly decrease in copper prices and a 4.1% decrease in nickel prices. Average iron ore prices were down by 1.1%.

In the group of **precious metals**, gold prices decreased by 0.2% on average due to a decline at the beginning of the month on the run-up to the Fed meeting, but advanced thereafter on lower interest rate expectations in the US.

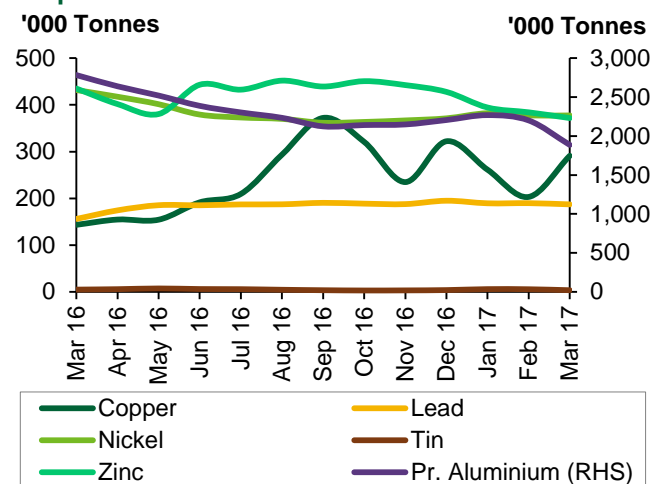


Graph 2 - 1: Major commodity price indices



Source: World Bank, Commodity price data.

Graph 2 - 2: Inventories at the LME



Sources: London Metal Exchange and Thomson Reuters.

In March, the **Henry Hub natural gas index** declined. The average price was up by 5¢, or 1.9%, to \$2.87 per million British thermal units (mmbtu) after trading at an average of \$2.82/mmbtu the previous month.

The **EIA** said utilities added 2 billion cubic feet (bcf) of **working gas in underground storage** during the week ending 31 March. This was below the median analysts' expectations of a 7 bcf injection. Total working gas in underground storage stood at 2,051 bcf, 17.2% lower than at the same time the previous year, but 14.8% higher than the previous five-year average. The agency noted that temperatures were warmer than normal during the reported week.

## Investment flows into commodities

**Open interest (OI)** increased in February for selected US commodity markets such as crude oil, natural gas, precious metals and livestock, while it declined for agriculture and copper. Meanwhile, in monthly terms, speculative net length positions increased for natural gas but declined for agriculture, crude oil, precious metals, copper and livestock.

Table 2 - 2: CFTC data on non-commercial positions, '000 contracts

	Open interest		Net length			
	Feb 17	Mar 17	Feb 17	% OI	Mar 17	% OI
Crude oil	2,150	2,199	377	18	264	12
Natural gas	1,269	1,361	92	7	121	9
Agriculture	5,145	5,062	560	11	156	3
Precious metals	625	632	157	25	145	23
Copper	285	268	81	28	56	21
Livestock	618	634	158	26	156	25
<b>Total</b>	<b>10,091</b>	<b>10,155</b>	<b>1,424</b>	<b>115</b>	<b>898</b>	<b>93</b>

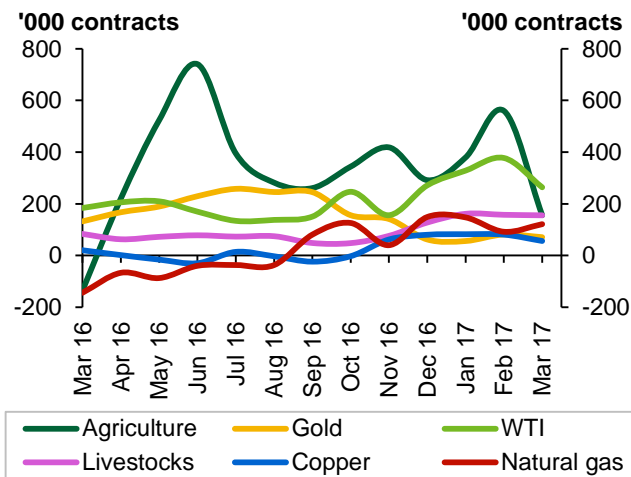
Source: US Commodity Futures Trading Commission.

**Agriculture's OI** decreased by 1.6% to 5,062,199 contracts in March. Meanwhile, money managers decreased net long positions by 72.2% to 155,876 lots, largely because of decreasing net lengths in the soy complex sugar and corn.

**Henry Hub's natural gas OI** increased by 7.2% m-o-m to 1,360,858 contracts in March. Money managers increased their net length by 32% to 121,395 lots due to colder-than-average weather at the end of winter.

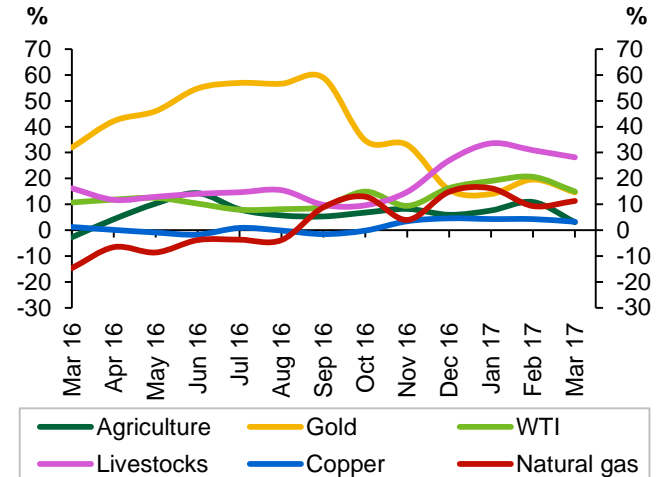
## Commodity Markets

**Graph 2 - 3: Speculative activity in key commodities, net length**



Source: US Commodity Futures Trading Commission.

**Graph 2 - 4: Inventories at the London Metal Exchange**



Source: US Commodity Futures Trading Commission.

**Copper's OI** decreased by 6.1% m-o-m to 267,518 contracts in March. Money managers decreased their net long positions by 30.4% to 56,263 on receding supply concerns.

**Precious metals' OI** increased by 1.2% m-o-m to 632,213 contracts in March. Money managers decreased their net long positions by 7.3% to 145,182 lots.

## World Economy

Global economic growth remains firm with the current momentum relatively broad-based in terms of geographies and sectors, a dynamic that is forecast to lift global economic growth from an estimated level of 3.0% in 2016 to 3.3% in 2017. This is higher than the estimate of 3.2% in the previous month's report. This upward revision is also supported by a more balanced oil market, a key factor buttressing output levels in oil-producing nations and leading to rising investments in the energy sector. It has also helped lift inflation to healthier levels and, hence, provide support to central banks to normalise interest rates. Moreover, world trade is picking up in volume and value.

In the OECD economies, US growth is forecast to stand at 2.2% in 2017, after growth of 1.6% in 2016, lifted by ongoing strong domestic demand. It should be noted that the depth and the timeline of envisaged reforms by the new US administration remain uncertain, but this could lift growth further. In Japan, rising exports and stimulus measures have led to expectations of 1.2% GDP growth in 2017, compared to 1.0% in 2016. However, the extremely tight labour market and continuing low inflation are keeping growth from moving to higher levels. In the Euro-zone, the growth dynamic continues to be positive, supported by encouraging domestic demand, falling unemployment and a recovery in most peripheral economies. However, ongoing high sovereign debt levels in some economies, several weak banking sector institutions and political uncertainties are all issues that need to be closely monitored.

In the emerging economies, India and China continue to expand at a considerable rate. India's growth is forecast at 7.0% in 2017, after growth of 7.5% in 2016. China is also forecast to expand at a slightly lower pace of 6.3% in 2017, compared to 6.7% in 2016. Domestic consumption, investment, and governmental support remain key drivers in these two economies and are expected to continue to support growth in 2017. Both Russia and Brazil are forecast to recover in 2017, after two years of recession. Russia is expected to see growth of 1.2%, after a decline of 0.2% in 2016. Brazil is forecast to grow by 0.5% in 2017, after a considerable decline of 3.6% in 2016. Both economies are anticipated to benefit from improving commodity markets and a recovery in domestic demand.

Among the most important uncertainties for global economic growth, policy issues carry considerable weight, as do monetary policy decisions, which remain particularly important in the near-term. Moreover, global debt levels remain high in some key economies; an issue that will probably require further attention if interest rates rise gradually and the US dollar continues to strengthen. Finally, sustained stability in commodity prices are viewed as necessary for continued improvement in global growth.

**Table 3 - 1: Economic growth rate and revision, 2016-2017\*, %**

	World	OECD	US	Japan	Euro-zone	UK	China	India	Brazil	Russia
<b>2016</b>	<b>3.0</b>	<b>1.8</b>	<b>1.6</b>	<b>1.0</b>	<b>1.7</b>	<b>1.8</b>	<b>6.7</b>	<b>7.5</b>	<b>-3.6</b>	<b>-0.2</b>
Change from previous month	0.0	0.1	0.0	0.0	0.0	-0.2	0.0	0.0	0.0	0.3
<b>2017</b>	<b>3.3</b>	<b>1.9</b>	<b>2.2</b>	<b>1.2</b>	<b>1.6</b>	<b>1.4</b>	<b>6.3</b>	<b>7.0</b>	<b>0.5</b>	<b>1.2</b>
Change from previous month	0.1	0.0	0.0	0.1	0.0	0.1	0.1	0.0	0.0	0.2

Note: \* 2017 = Forecast.

Source: OPEC Secretariat.

## OECD

### OECD Americas

#### US

In its third and final estimate, the US Bureau of Economic Analysis saw **US GDP** growth at 2.1% q-o-q on a seasonally adjusted annualised rate (SAAR) in 4Q16. This is slightly higher than the second estimate of 1.9%. Importantly, the growth dynamic of the 1Q17 seems to be somewhat lower and is estimated at below 2%. Over the course of the quarters in 2017, no major pick-up in average growth levels is expected as productivity growth remains subdued, the labour market continues to be tight and further governmental-led growth initiatives remain uncertain. Positively, consumption increased by a significant 3.5% q-o-q on a SAAR in 4Q16, a rise from the already healthy 3.0% q-o-q on a SAAR growth rate in 3Q16. Moreover, private investment supported GDP significantly, growing by 9.4% q-o-q on a SAAR. Exports weakened, after expanding by 10.0% q-o-q on a SAAR in 3Q16, falling by 4.0% q-o-q on a SAAR in 4Q16, impacted by the strength of the US dollar. While the GDP growth level remains modest, it should be noted that a consequence of continuing improvements in the labour market has been a lift in consumer sentiment in the past months. Moreover, industrial output is slowly recovering, also supported by the oil sector's recovery, with rising output levels in value and volume, as well as recovering investments, after a multi-year cut in capital expenditures.

All these supportive indicators have reinforced the likelihood of further **Fed** interest rate hikes in 2017. The pace of the Fed's interest rate decisions will not only depend on the ongoing natural development of the economy, but also on how, when and at what magnitude the new US administration implements the fiscal stimulus it has highlighted. The most important near-term stimulus measures it wants to implement are tax cuts and infrastructure spending, but it remains unclear how and at what pace a political consensus may be found on these measures, and additionally, how these might be financed. Certainly, any increase in spending, combined with a lower tax burden for companies and households, could lift both growth and inflation. In turn, this could lead the Fed to raise interest rates quicker than currently anticipated. The upcoming budget negotiations will provide more inside in this respect.

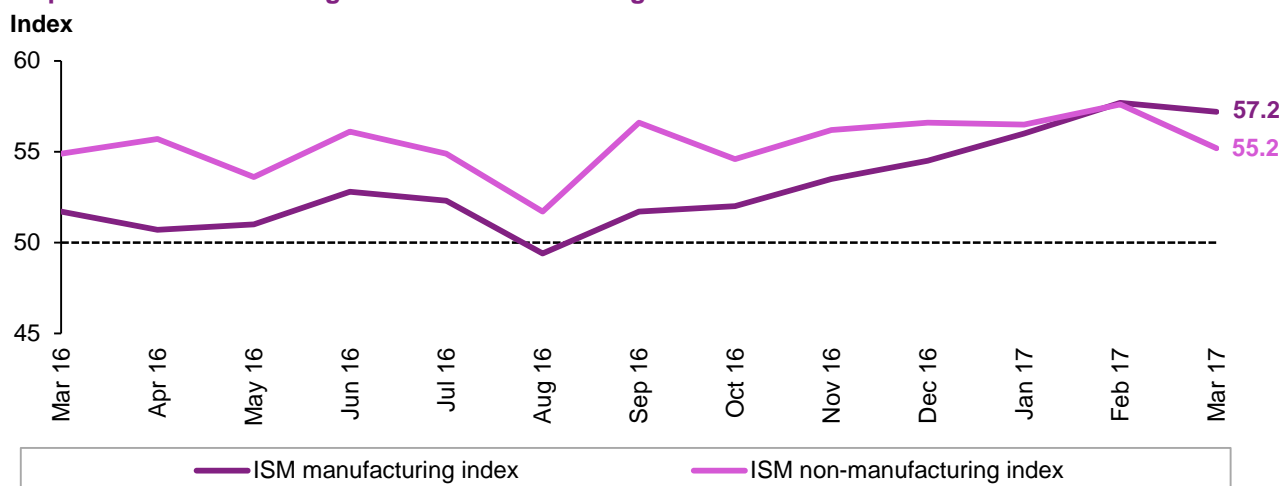
With the current momentum in the underlying economy and the ongoing envisaged stimulus plans from the new US administration, the Fed is expected to continue raising interest rates after it decided upon a 25 basis-points increase in its latest March 15 meeting. Total **inflation** stood at 2.8% in January and core inflation, excluding food and energy, was still up by 2.2%, which is actually above the Fed's envisaged inflation level of around 2.0%.

The **labour market's** positive momentum continued to be seen in the latest March numbers. The unemployment rate fell back to 4.5% in March, the lowest since May 2007, while non-farm payroll additions rose by 98,000, following a rise of 219,000 in February. Average hourly earnings rose by 2.3% y-o-y, a solid increase, to reach \$21.90/hour. Ongoing support is also provided by the mining and logging sector, which includes oil-related employment. The sector added 11,000 jobs in March, a significant ratio of the total job-additions. Long-term unemployment also reached a new low of only 23.3% of total unemployment, the lowest level since February 2009, and the participation rate remained at 63%, another sign of a healthy labour market.

On the domestic side, **industrial production** increased slightly in February – by 0.5% y-o-y –, after a rise of 0.1% y-o-y in January. While the growth rate remains modest, it was again supported by a better situation in the energy sector. Mining, which includes oil sector-related output, rose by 1.0% y-o-y in February, the first increase from this sub-group in almost two years. Domestic demand was supported by the latest rising **retail sales** numbers, albeit, at a slowing pace. After retail sales growth in January stood at 5.5% y-o-y, it fell to a growth level of 2.1% y-o-y in February. The general positive trend in domestic consumption was also visible in the Conference Board's Consumer Confidence Index, which rose to a multi-year high of 125.6. This is the highest level since the end of 2000. It provides a strong indication that economic conditions have been improving, and may continue to do so.

March's **Purchasing Manager's Index (PMI)** for the manufacturing sector as provided by the Institute of Supply Management (ISM) also indicated ongoing improvements in the underlying economy, albeit at a slower pace. The manufacturing PMI fell back marginally to 57.2 in March, compared to 57.7 in February, but higher than the 56.0 in January. The important services sector index retraced to an index level of 55.2, compared to 57.6 in February and 56.5 in January.

**Graph 3 - 1: Manufacturing and non-manufacturing ISM indices**



Sources: Institute for Supply Management and Haver Analytics.

The uptick in the yearly growth average was already anticipated in the previous month, thus the **GDP growth forecast** remains unchanged at 2.2% for 2017, after achieving growth of 1.6% in 2016. While currently the upside to the 2017 GDP growth forecast seems to be limited, more and better insights into the fiscal stimulus plans of the incoming administration will provide a sounder overview for a more detailed assessment of the situation of the US economy.

## Canada

The economy of Canada continues to improve, supported by a recovering oil sector, with output growth of 3.5% y-o-y in January, the latest available number. This compared to 1.4% y-o-y growth in December and marks the fifth consecutive month of growth after more than a year of contracting output numbers. The positive momentum was also supported by rising exports, boosted by improvements in the US domestic market, Canada's most important trading partner. Exports rose by 4.4% y-o-y in February, up from 2.5% y-o-y in January. The PMI for manufacturing improved, rising to a significantly higher level of 55.5 in March, up again from an already considerable level of 54.7 in February and 53.5 in January. Taking the positive momentum into consideration, the GDP growth forecast for 2017 was revised up to 1.8% from 1.7%.

## OECD Asia Pacific

### Japan

While the Japanese economy's growth level remains modest, positive signals point to a **stabilising economic environment**. The positive dynamic is supported by a considerable recovery in exports, while government-led support has also improved the economic situation. However, domestic demand remains weak so far and while the labour market is becoming increasingly tight, earnings are growing but only at a gradual rate. The weakness of the yen has certainly been an important driver for exports as well. As global trade and trade deficits are becoming an increasingly discussed topic, some challenges for a continued rise in exports may lay ahead. However, it is forecast that some of these positive developments will filter through also to domestic demand and support economic growth. Still needed – but in the short-term less visible – are continued structural changes in the economy such as increasing the participation rate in the labour market and, in general, improving its flexibility. This is another important factor that may lift growth again to higher levels. In addition, productivity gains are only gradual in the economy, which is running its manufacturing utilisation rate at around 100%. So while current economic growth should be considered a success, only medium- to long-term improvements will be able to raise the current growth level further. Inflation is still low

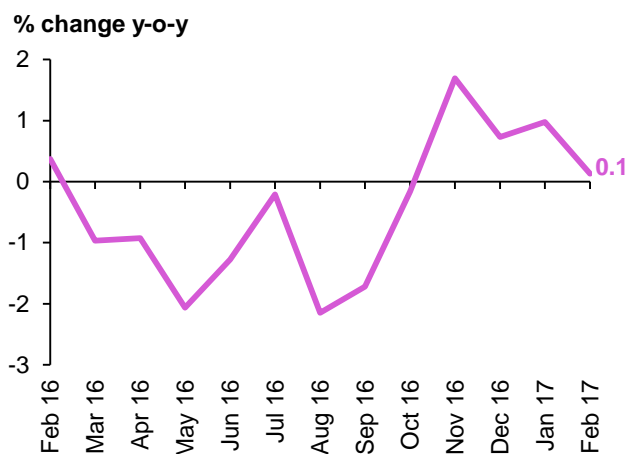
and may be supported by rising commodity prices, particularly oil. Any large effect caused by this should be considered to be temporary on a yearly comparison. To some extent, rising wages may also turn out to be supportive to the inflation level, but the envisaged 2% inflation target of the Bank of Japan (BoJ) seems to be still very ambitious. Consequently, the BoJ is expected to continue providing monetary support.

**Inflation** rose only slightly in February by 0.2%, falling back from a level of 0.5% in January and 0.3% in December. With the combination of a tight labour market, which should lift core inflation via rising income levels and strengthening commodity prices, this trend should turn again, but the underlying deflationary – or at least low-inflationary – forces are persistent in the Japanese economy, despite an ultra-tight labour market and full capacity utilisation in manufacturing. This is still the reminiscence of the real estate bubble in the 1990s in Japan, as housing inflation continues to be flat or in decline. Real income continued to rise modestly with pay increases in February of 0.5% y-o-y, following a rise of 0.5% y-o-y in January. The rising income pattern is also supported by a very low unemployment rate, which stood at only 2.8% in February, even lower than the rate of 3.0% recorded in December. Moreover, when excluding the two volatile groups of energy and food, the country’s core inflation figure was again in decline by 0.1%.

**Japanese exports** rose in February by 11.3% y-o-y, after already showing good growth of 5.4% y-o-y in December, while only 1.3% y-o-y in January. However, this recovery comes after more than a year of decline. This dynamic has been supported by a fall in the value of the yen and improvements in OECD economies. The export of industrial goods and capital equipment mostly supported this positive trend in trade. Also, **industrial production** continued its recovery, rising for the seventh consecutive month, up by 4.8% y-o-y in February, after 3.7% y-o-y in January. This was also supported by a strong trend in manufacturing, which rose by 9.7% y-o-y in February, after 1.9% y-o-y in January. Also, manufacturing orders suggest a continuation of this trend as they rose by 9.0% y-o-y in January – the latest available data point – and 10.4% y-o-y in December. This points to the likelihood of continued rising industrial output.

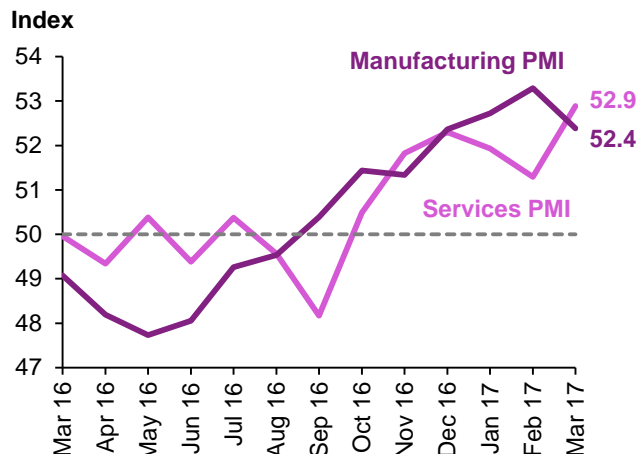
Some improvement has also been reflected in **domestic demand** levels, while the dynamic remains sluggish. Retail trade had already recovered in November when it rose by 1.7%. It continued to rise in December at a rate of 0.7%, increased by 1.0% y-o-y in January but only by 0.1% y-o-y in February, the latest available month. However, this expansion comes after almost a year of decline.

Graph 3 - 2: Japanese retail trade



Sources: Ministry of Economy, Trade and Industry and Haver Analytics.

Graph 3 - 3: Japanese PMIs



Sources: IHS Markit, Nikkei and Haver Analytics.

The **latest PMI numbers** provided by IHS Markit confirmed some slowdown in manufacturing, while the momentum in the services sector has improved. The PMI for manufacturing fell to 52.4 in March from 53.3 in February. The services sector PMI remained strong and rose to 52.9 in March from 51.3 in February.

The most recent developments confirm the solid underlying growth dynamic in the Japanese economy. Numerous challenges persist and it remains to be seen to what extent current improvements will hold in the global economy and whether the ongoing stimulus measures by the government and the BoJ will be able to lift growth further. Taking into consideration the ongoing momentum, the **2017 growth forecast** was revised up to 1.2% from 1.1%, compared to 1.0% in 2016.

## South Korea

South Korea continues to show solid growth rates. However, domestic political developments combined with rising uncertainties in the region may dampen this trend in the coming months. Exports in particular were a driving force for the economy's continued solid growth. Exports rose again significantly in March by 9.1% y-o-y, after an already high number of 12.7% y-o-y in February and 8.9% y-o-y in January. Industrial production rose by 4.2% y-o-y in February, after 3.5% y-o-y in January and 3.6% y-o-y in December. However, the latest PMI number for the manufacturing sector in March already anticipates a slowing trend in the near future, falling to 48.4 from 49.2 and hence remaining below the growth-indicating level of 50 for an eighth consecutive month. While near-term developments warrant close monitoring, the GDP growth forecast for this month remains unchanged at 2.8% for 2016 and 2.6% for 2017.

## OECD Europe

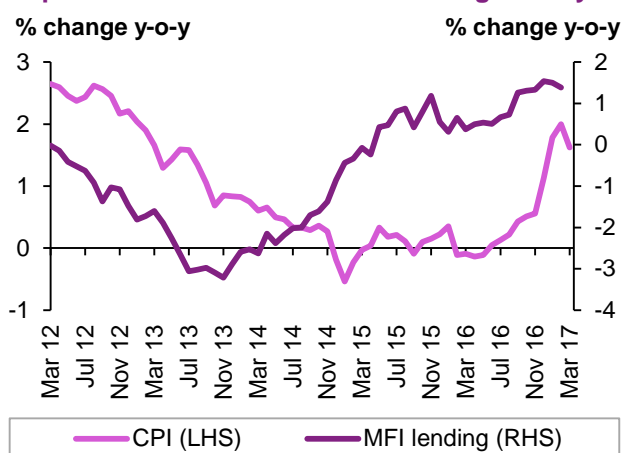
### Euro-zone

Although the 1Q GDP data is not available yet, the Euro-zone's growth dynamic continues with the output numbers from the past months pointing at a broad-based momentum. The **4Q16 GDP growth level** was confirmed at a 0.4% q-o-q seasonally adjusted (sa) growth rate. Nevertheless, political uncertainties remain and sovereign debt issues, particularly in Greece, may still re-emerge. Moreover, the upcoming elections in France and Brexit are both important subjects that will continue to influence the political environment in the coming months and will need close monitoring. In the meantime, growth continues to be supported by healthy domestic demand, exports are still benefitting from a relatively weak euro and the labour market – while still having room to the upside – is improving. On a positive note, inflation has risen lately, supported by a combination of a weaker euro and rising commodity prices. However, the core inflation rate remains low, which seems to keep the European Central Bank (ECB) from significantly reducing its monetary stimulus anytime soon. In addition, the sovereign debt situation in some countries remains challenging as debt levels – namely in Italy, France, Spain and Greece – continue to either rise or remain at high levels. Germany meanwhile has been reducing its debt significantly and has thus positively distorted the Euro-zone debt average to the downside.

The **unemployment rate** fell again and while it remains at an elevated level it still offers some room to the upside, providing further growth potential to the economy. The unemployment rate stood at 9.5% in February, compared to 9.6% in January. This is not only the seventh consecutive month below 10% but also the lowest unemployment rate in almost eight years. As this is also a positive driver for inflation and a signal of an improving economic environment, inflation levels have risen in the past months. Inflation stood at 1.5% in March but retraced from an even higher level of 2.0% in February and 1.8% y-o-y in January. However, core inflation – that is, the **consumer price index** (CPI), excluding energy, tobacco and food – stood at only 0.7% y-o-y, again falling in March. In December to February it stood at 0.9% y-o-y.

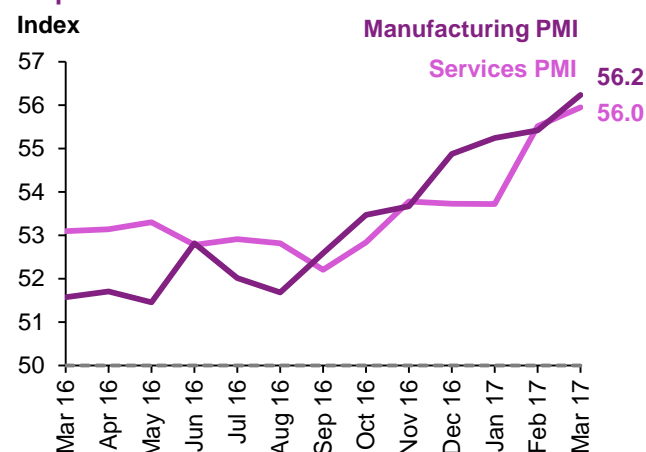
Such inflation developments, in combination with the trend of underlying improvements, will remain an area that the **ECB** will consider closely in its upcoming monetary policy decision-making meetings. So far, senior policymakers in the ECB have highlighted that it could be too early to change the course of the accommodative monetary policy now and that is likely that the ECB will keep its main policy rate at 0% and the deposit facility rate at -0.40% in the coming months. Officials also said recently that the bond buying programme will continue until at least the end of 2017. Also, the again somewhat faltering trend in inflation underscores the likelihood that the stimulus measures are expected to continue for a while. Support from monetary stimulus – not only in terms of inflation but also in terms of credit supply – has continued. In February, the credit supply increased by 1.4% y-o-y, compared to 1.5% in January and December. This is the sixth consecutive month with growth higher than 1%, after recovering from levels below 1% for all of 2016 prior to September. Also, banking sector related weakness seems to have abated to some extent, while in Italy challenges remain, with large institutions with capital needs.

Graph 3 - 4: Euro-zone CPI and lending activity



Sources: Statistical Office of the European Communities, European Central Bank and Haver Analytics.

Graph 3 - 5: Euro-zone PMIs



Sources: IHS Markit and Haver Analytics.

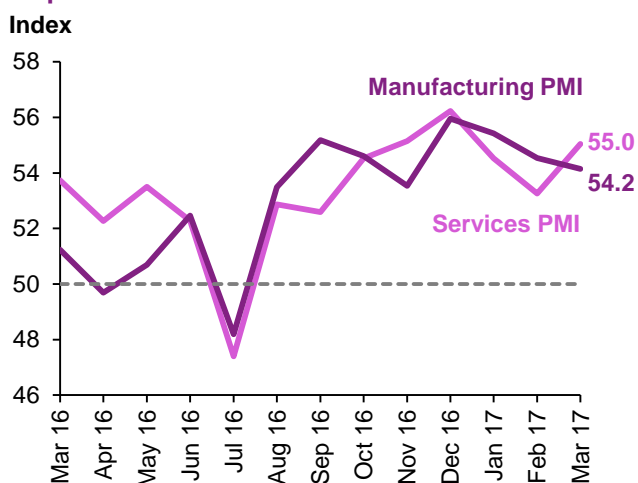
**Industrial production** grew by 0.5% y-o-y in January, somewhat lower than the December number of 2.2% y-o-y. **Retail sales** growth in value terms was again an important support factor for Euro-zone growth, when it increased by 3.6% y-o-y in February, after reaching 3.2% y-o-y in January. This signals ongoing improvements in the underlying economy as also continued support may still come from improvements in the labour market. The latest **PMI indicators** point to a continuation in Euro-zone improvements as well. The manufacturing PMI rose to 56.2 in March from 55.4 in February. The important services PMI increased to 56.0 from 55.5.

The **2017 GDP growth forecast** for the Euro-zone remains at 1.6%, compared with a 2016 growth level of 1.7%. While some upside remains, the lower level of growth in the current year anticipates potential challenges posed by political developments in 2017, given key elections in major economies, as well as the vagueness regarding Brexit procedures, which may all lead to rising uncertainty. This is to be seen in combination with the likelihood of rising inflation and, hence, signals of a potential reduction in monetary stimulus towards the end of the year.

## UK

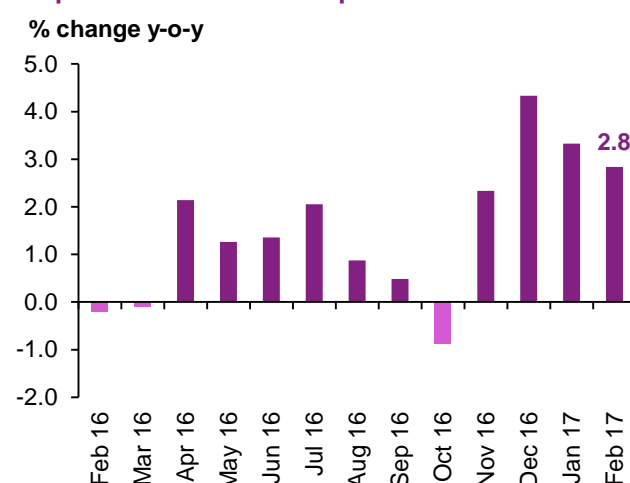
After having triggered **Article 50** to leave the EU, UK exit talks have officially started. But a detailed plan on how to pursue the negotiations within the two-year time frame has not been provided yet. While negotiations will need to cover a variety of complex issues – ranging from the free movement of EU citizens, bank passport rights and air traffic – the two years are actually a limited time frame that will need to be utilised in an efficient way.

Graph 3 - 6: UK PMIs



Sources: CIPS, IHS Markit and Haver Analytics.

Graph 3 - 7: UK industrial production



Sources: Office for National Statistics and Haver Analytics.



So far, the UK's economy has been doing relatively well and while early signs of a slowdown have emerged, the economy has remained relatively robust. Primarily exports have largely benefited from a weakening pound and, hence, have benefitted from an improving competitive position. Exports again increased by 16.5% y-o-y in February. This is now the fifth month in a row with growth rates of more than 15% on a yearly base. The **PMI for manufacturing** remained at a considerable level, standing at 54.2 in March, after 54.6 in February and 55.7 of January. Positively – and probably even more important for economic growth in the UK – the **services sector PMI** rose to 55.0, after having fallen back to 53.3 in February. **Domestic consumption** rose considerably as well again in February, rising by 6.4% y-o-y. Industrial production rose by 2.8% y-o-y in February, only slightly below the 3.3% y-o-y in January. The underlying assumption of a severe negative impact on the UK economy stemming from Brexit has not changed. But it seems that the fallout will be spread over a longer time horizon and may be counterbalanced by governmental support, at least to some extent. Hence, the 2017 growth forecast was lifted to 1.4% from 1.3% but is still significantly lower than growth in 2016 of 1.8%.

## Non-OECD

### BRICs

Table 3 - 2: Summary of macroeconomic performance of BRIC countries, 2016-2017\*

	GDP growth rate		Consumer price index, % change y-o-y		Current account balance, US\$ bn		Government fiscal balance, % of GDP		Net public debt, % of GDP	
	2016	2017	2016	2017	2016	2017	2016	2017	2016	2017
<b>Brazil</b>	-3.6	0.5	8.7	5.0	-23.5	-26.4	-6.3	-7.7	68.5	75.9
<b>Russia</b>	-0.5	1.2	7.0	4.4	22.2	45.7	-3.5	-2.9	9.8	12.4
<b>India</b>	7.5	7.0	4.9	4.4	-10.2	-17.9	-3.8	-3.2	51.8	51.4
<b>China</b>	6.7	6.3	2.1	2.3	217.6	175.4	-3.8	-4.1	20.0	24.4

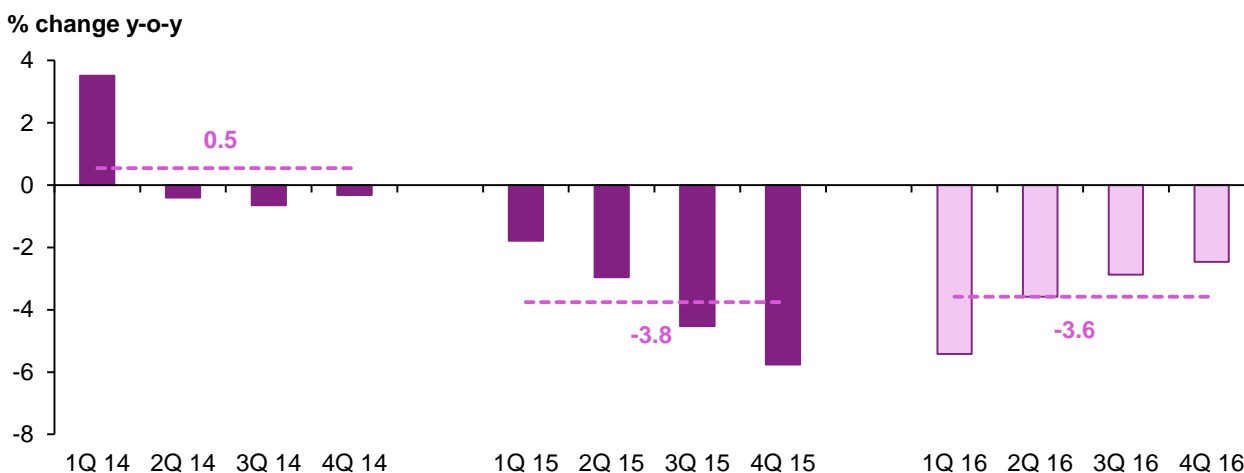
Note: \* 2016 = Estimate and 2017 = Forecast.

Sources: Consensus Economics, Economic Intelligence Unit, Financial Times, OPEC Secretariat and Oxford.

### Brazil

Brazil's **GDP** contracted by 3.6% y-o-y in 2016. Private consumption fell by 4.3% y-o-y, while government consumption decelerated slightly by 0.6%. Exports increased somewhat by 2.3% and imports dropped by 9.9% y-o-y.

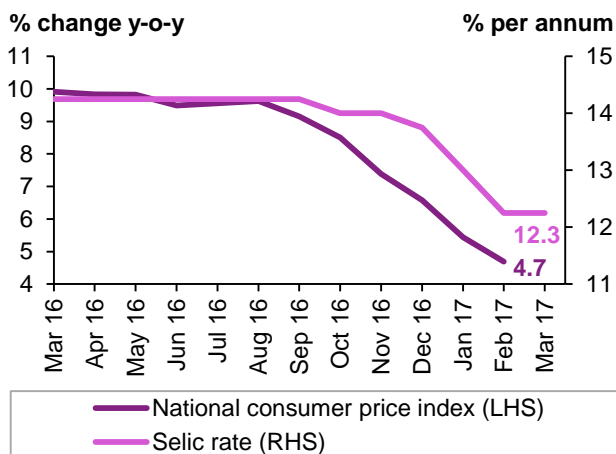
Graph 3 - 8: Brazilian GDP growth



Sources: Instituto Brasileiro de Geografia e Estatística and Haver Analytics.

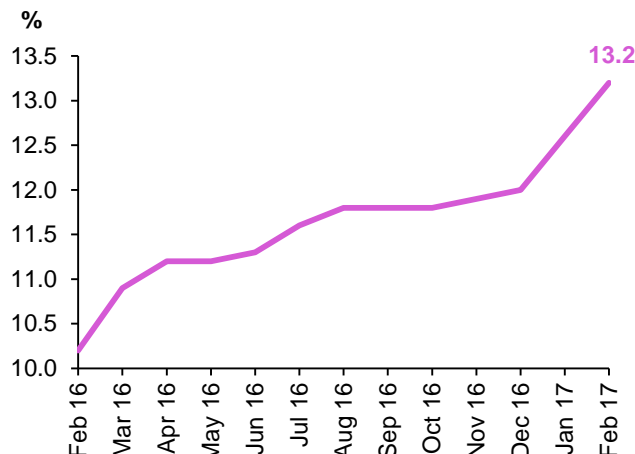
The Brazilian **real** appreciated by 2.9% m-o-m vs. the US dollar in February. Consumer price **inflation** eased to 4.7% y-o-y in February, the lowest reading since August 2010. This downward inflationary path left some room for the central bank to continue reducing its high **interest rate** in February to 12.25% from January's 13%. This marks the third consecutive month of interest rate reduction. The **unemployment rate** increased once again in February to another record-high of 13.2%.

**Graph 3 - 9: Brazilian inflation vs. Interest rate**



Sources: Banco Central do Brasil, Instituto Brasileiro de Geografia e Estatística and Haver Analytics.

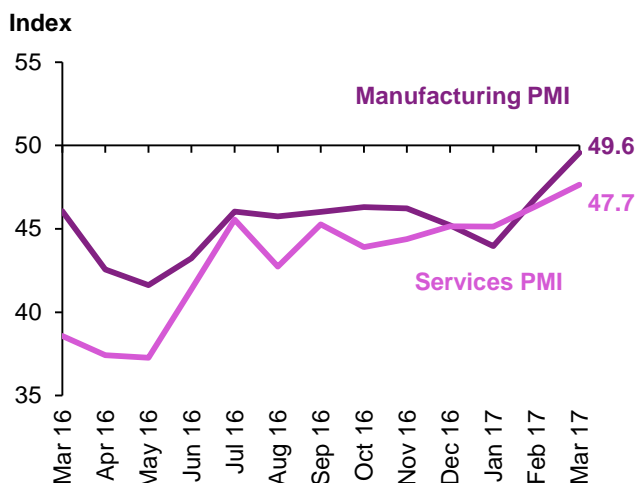
**Graph 3 - 10: Brazilian unemployment rate**



Sources: Instituto Brasileiro de Geografia e Estatística and Trading Economics.

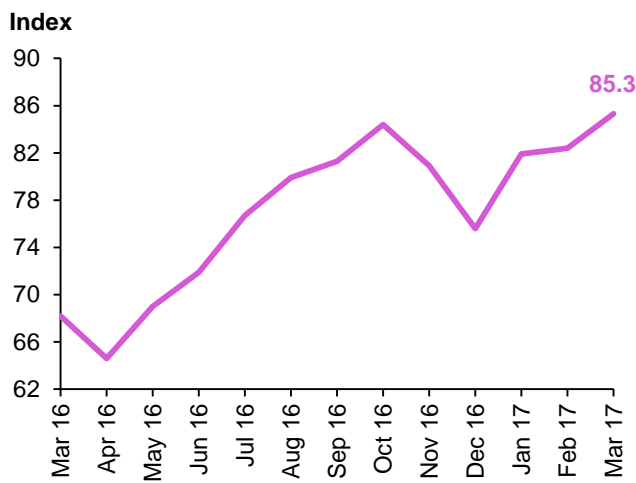
Brazil's **Markit Manufacturing PMI** notably improved in March to a 25-month high reading of 49.6, up from February's 46.9, though remaining in contraction territory. Surveyed manufacturers reported the first increase in production in more than two years combined with a rise in new business. The contraction in purchases by manufacturers continued but at a lesser rate. The sector still has long way to go before showing sustained growth which can reflect positively on employment. As such, the index survey revealed a continued drop in employment. The services sector index showed similar movement in March, during which it remained in the decline territory, though some improvements in the survey categories brought the index to its highest reading in two years. The index rose to 47.7 in March, up from 46.4 a month earlier, on the rise in new orders for the second consecutive month. Output, however, decelerated but at the slowest pace in two years.

**Graph 3 - 11: Brazilian manufacturing and services PMIs**



Sources: IHS Markit and Haver Analytics.

**Graph 3 - 12: Brazilian consumer confidence index**



Sources: Fundação Getúlio Vargas and Haver Analytics.

The **consumer confidence index** was again positively affected by slowing inflation and reduced interest rates. It showed another improvement in March, increasing to 85.3, up from February's 82.4.

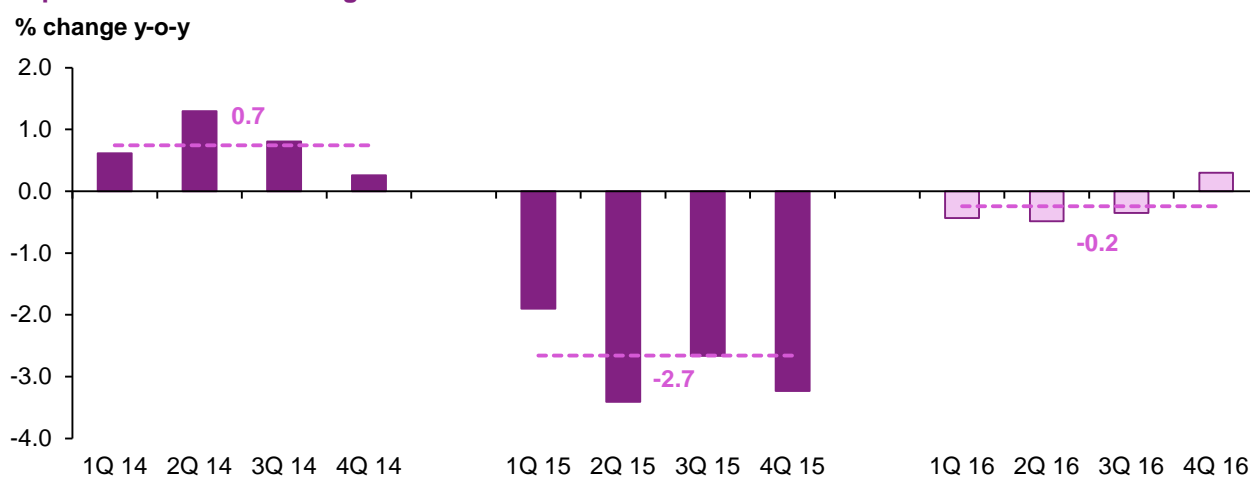
Early positive signals from the manufacturing and services sector started to accumulate for the second month in a row, supporting the return-to-growth view.

Throughout the past several months, Brazil has experienced easing trends in inflation and interest rates which helped consumer sentiment. GDP is currently anticipated to show cyclical but minor growth of around 0.5% y-o-y in 2017.

## Russia

Data from the Federal State Statistics Service showed that Russia's **GDP** has returned to growth territory in 4Q16 after seven consecutive quarters of contraction. GDP grew 0.3% y-o-y in 4Q16. The main factor behind this notable improvement was an increase in **gross capital formation** by 2.7% y-o-y. Contraction in **household consumption**, while continuing in 4Q16, slowed to 3.2% y-o-y compared with 4.8% y-o-y in 3Q16 and 11.3% y-o-y in 4Q15. **Government consumption** maintained the same rate of contraction since 2Q16 at 0.5% y-o-y in 2Q, 3Q, and 4Q16. The country's **imports** increased for the first time in three years, by 0.4% y-o-y, while **exports** posted an increase of 3.7% y-o-y which is lower than the 4.2% of the previous quarter. As a result, **net exports** increased by 7.0% y-o-y in 4Q16, a slower pace than the 15.3% of 3Q16. The figure in the last quarter of 2016 brought the overall contraction in GDP to 0.2% y-o-y for the whole of 2016.

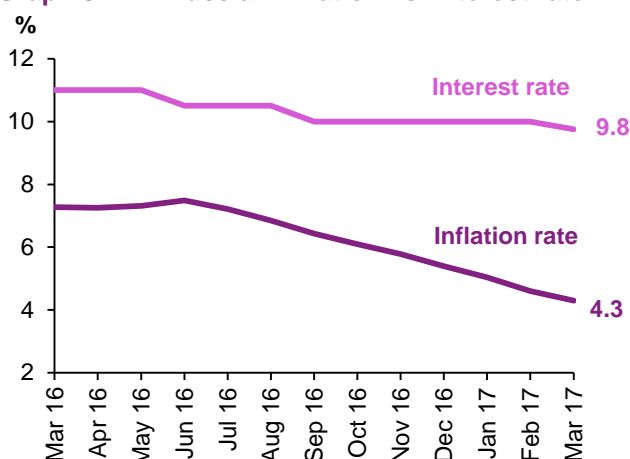
Graph 3 - 13: Russian GDP growth



Sources: State Committee of the Russian Federation and Haver Analytics.

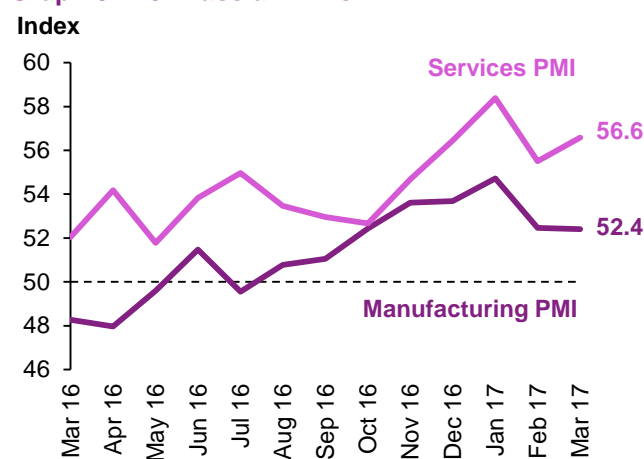
For the fourth consecutive month the **ruble** appreciated vs. the dollar in March, though by only 0.7% m-o-m, compared with 2.6% m-o-m in February. A downward inflationary trend continued in February, posting 4.6% y-o-y consumer price **inflation**, the lowest since June 2012. After leaving its benchmark **interest rate** unchanged at 10% for six months, the central bank slightly lowered the rate to 9.75% in March.

Graph 3 - 14: Russian inflation vs. Interest rate



Sources: Federal State Statistics Service, Central Bank of Russia and Haver Analytics.

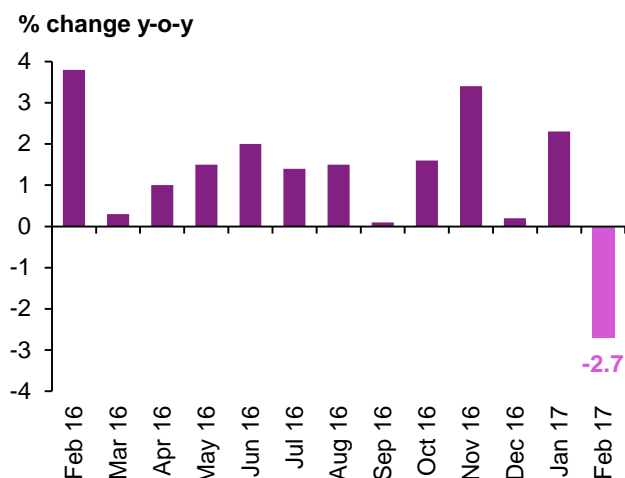
Graph 3 - 15: Russian PMIs



Sources: IHS Markit and Haver Analytics.

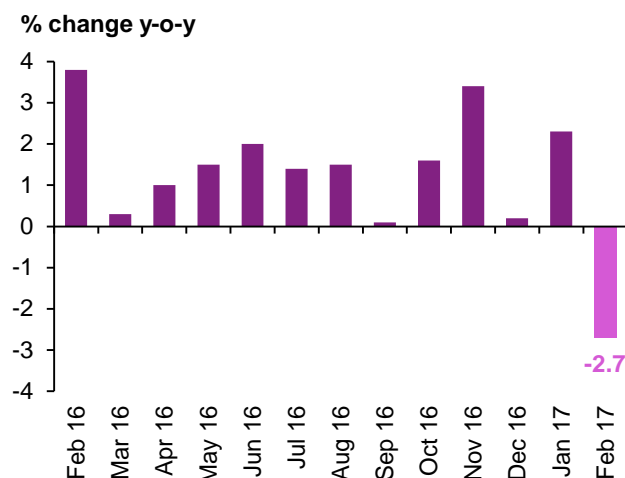
Russia's **Markit Manufacturing PMI** remained in growth territory in March, posting a slightly lower reading of 52.4 compared with the previous month's 52.5. The survey confirmed the continuation in production and new business expansion, in addition to showing rising optimism in the sector. The services sector, on the other hand, maintained its expansionary performance in March which made 1Q17 the strongest quarter since 4Q12. The respective index increased to 56.6 in March, up from February's 55.5. The country's **industrial production** shrank by 2.7% y-o-y in February 2017 for the first time since January 2016, while **retail sales** also declined by 2.6% y-o-y in February. The unemployment rate was unchanged in February at 5.6%.

**Graph 3 - 16: Russian industrial production**



Sources: Federal State Statistics Service and Haver Analytics.

**Graph 3 - 17: Russian retail sales**



Sources: Federal State Statistics Service and Haver Analytics.

Indications from the past few months have provided reasonable evidence to raise the **GDP** forecast. GDP is now anticipated to grow by 1.2% y-o-y in 2017.

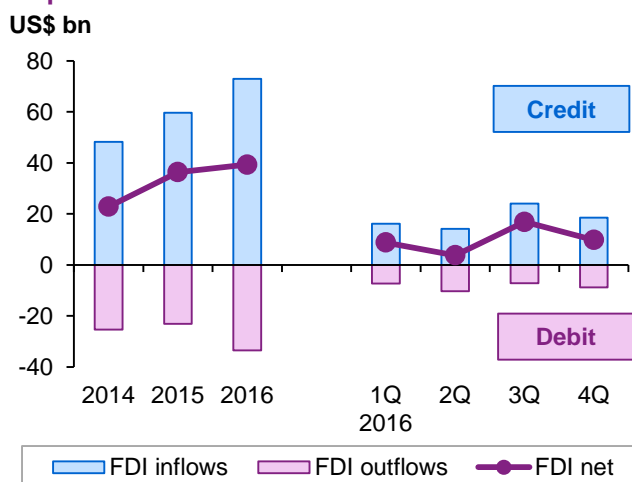
## India

**India's economy** significantly expanded in 4Q17, despite the negative impact of demonetisation, and supported by an expanding formal economy and public infrastructure spending.

In February 2017, the Indian government injected INR100 billion into public banks yet capital shortages were likely to remain uncertain. It is looking to inject an additional INR80 billion (\$1.2 billion) into public sector banks. This is on top of the INR 229.2 billion that has been injected so far and brings the total state capital contribution for the fiscal year (FY) 2016–17 to some INR 60 billion above the earmarked injection of INR 250 billion. This suggests that the government may be open to increasing its capital allocations from initially budgeted levels, if necessary. Nonetheless, the discussion to remove Non-Performing Loans (NPLs) from banks, which are being held between the two main figures responsible for Indian banking regulations, is a positive step, as the plan to set up a 'bad bank' was previously the suggestion of the Reserve Bank of India (RBI) alone, with no indication of adoption by the government.

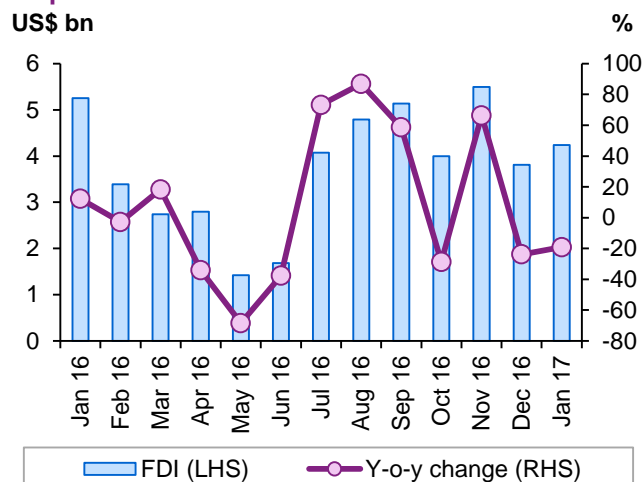
The government is considering further liberalisation of the **FDI** regime, particularly in the retail sector. The proposal includes opening up sectors such as single-brand retail and possibly even the more politically sensitive multi-brand retail sector. According to data released by the Department of Industrial Policy and Promotion, FDI inflows to India increased by 18% y-o-y to \$46.4 billion in 2016. The strength of the rupee is the result of improving investor sentiment as reflected in strong inflows of FDI. FDI in India increased by \$4.2 billion in January of 2017.

Graph 3 - 18: Indian financial account



Sources: Reserve Bank of India and Haver Analytics.

Graph 3 - 19: Indian FDI

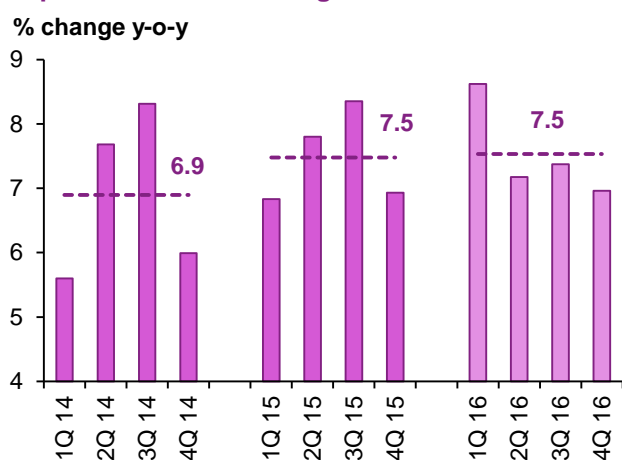


Sources: Reserve Bank of India and Haver Analytics.

The **rupee** continued to trade below the Rs66:\$1 level for the fourth consecutive day on 17 March. Following a period of appreciation, the rupee finally fell below the Rs66:\$1 mark in mid-March for the first time since November 2015. Indeed, the rupee had been one of the strongest-performing emerging market currencies until the end of March 2017 and it seems it will remain so for all of 2017. Relatively low commodity prices also played an important role, as they helped to keep the merchandise trade deficit contained and reduced depreciation pressure. However, if the US Federal Reserve (US Fed) increases its main policy interest rate – the federal funds rate – it could dampen investor appetite for emerging market assets. The RBI will probably occasionally intervene in foreign exchange markets and ensure that the currency depreciates at a gradual pace in the months ahead.

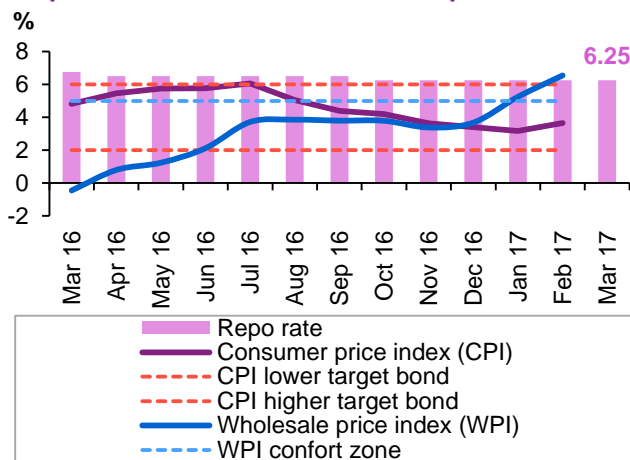
The **CPI** in India increased by 3.65% y-o-y in February of 2017, following a record low rise of 3.17% in January and higher than the market's expectations of 3.58%. Food inflation accelerated to 2.01% from 0.53%. Meanwhile, India's **wholesale price index (WPI)** rose by 6.55% y-o-y in February of 2017, following a 5.25% gain in January, while markets expected a 5.90% rise. It was the eleventh straight month of increase and the highest since November 2013, driven by a surge in prices of food while the cost of manufactured products and petrol rose further. On a monthly basis, wholesale prices rose by 0.5%, compared with a 1.0% rise the prior month.

Graph 3 - 20: Indian GDP growth



Sources: National Informatics Centre (NIC) and Haver Analytics.

Graph 3 - 21: Indian inflation vs. Repo rate

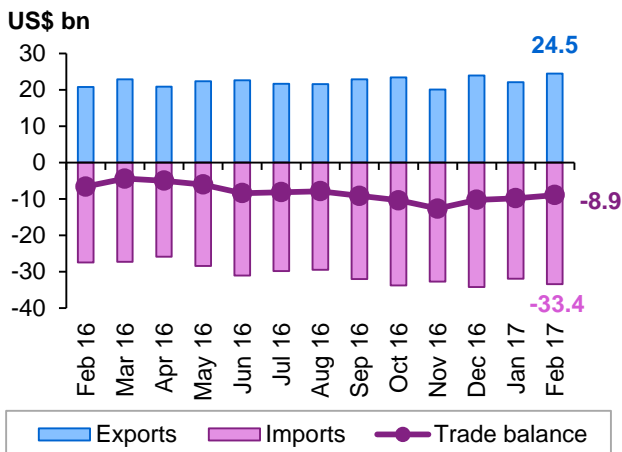


Sources: Ministry of Commerce and Industry, Reserve Bank of India and Haver Analytics.

Indian **trade** flows are picking up, but given higher oil prices, the trade deficit is widening marginally. Merchandise **exports** jumped by 17.5% y-o-y in February, driven by rising petroleum and engineering goods exports. Merchandise **imports** also grew sharply by 21.8% y-o-y, with oil exports up by 60% y-o-y. Merchandise exports reached \$24.5 billion in February, up 17.5% from the same month a year ago. This is the highest rise since October 2011. The boost largely came from rising engineering goods exports, which

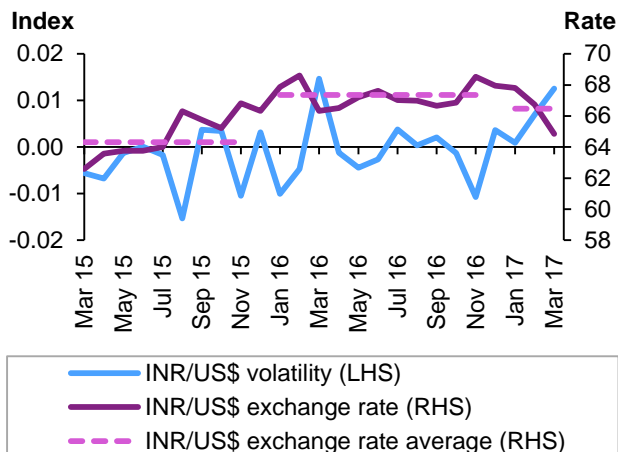
stood at \$6.6 billion, up by 47.3% y-o-y, as well as petroleum exports that stood at \$2.5 billion, up by 27.6% y-o-y. Merchandise imports also rose sharply in February to \$33.4 billion, up by 21.8% y-o-y, driven by a sharp rise in oil and gold purchases. Oil imports rose by 60% y-o-y to \$51.5 billion, while imports of gold reached \$23.3 billion, up by 143.4% y-o-y. Merchandise trade balance stood at \$8.9 billion, narrowing from \$9.8 billion in January but widening from the \$6.6 billion registered in February 2016.

**Graph 3 - 22: Indian trade balance**



Sources: Ministry of Commerce and Industry and Haver Analytics.

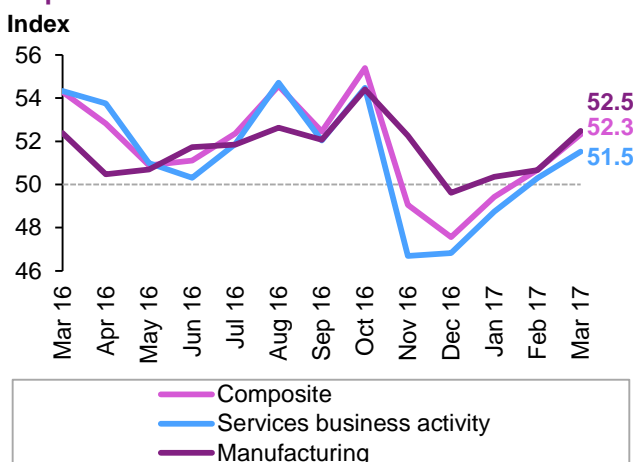
**Graph 3 - 23: INR and US\$ exchange rate**



Sources: Ministry of Commerce and Industry, Reserve Bank of India and Haver Analytics.

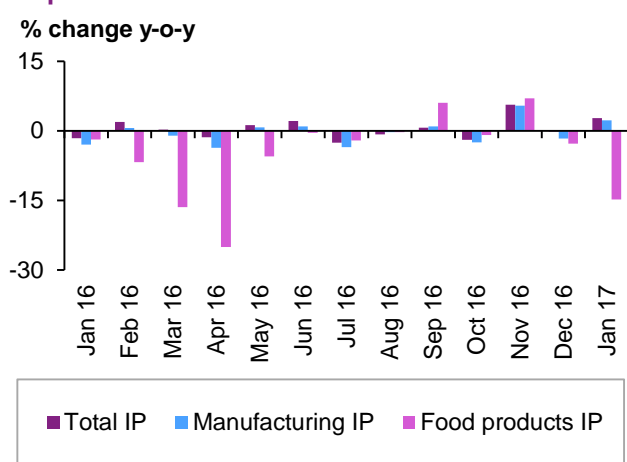
**Indian manufacturing PMI** for March reveals positive developments in the Indian manufacturing sector. Rates of expansion in factory orders and production accelerated again, encouraging some companies to scale up their input buying and take on additional workers. The favourable demand environment was supported by relatively muted inflationary pressures. Given that input costs rose at a softer pace, a whopping 96% of goods producers kept their selling prices unchanged over the month. Looking ahead, production volumes are likely to rise further as businesses will seek to replenish stocks. The PMI, a composite indicator designed to provide a single-figure snapshot of the performance of the manufacturing economy, rose to a five-month high of 52.5 in March from 50.7 in February, indicating that operating conditions in the sector improved to a great extent. As for the January-to-March quarter, the PMI average (51.2) was at the lowest seen since 1QFY 2016/17 (51.0).

**Graph 3 - 24: Indian PMIs**



Sources: Nikkei, IHS Markit and Haver Analytics.

**Graph 3 - 25: Indian industrial breakdown**



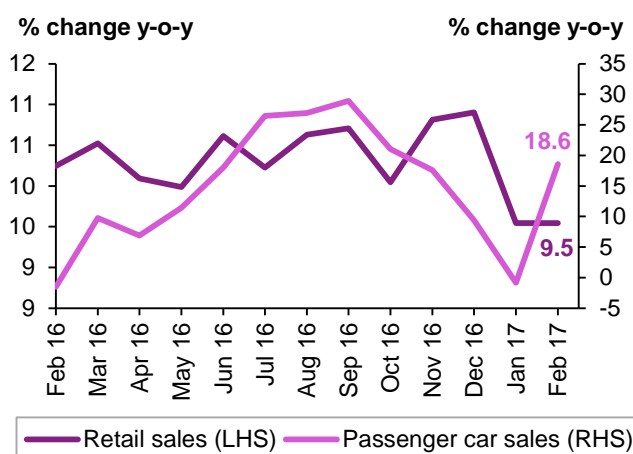
Sources: Central Statistical Organisation of India and Haver Analytics.

**India's GDP** growth in 2016 is 7.5% and the expectation for 2017 is that it shall be kept somewhat unchanged at 7.0%.

## China

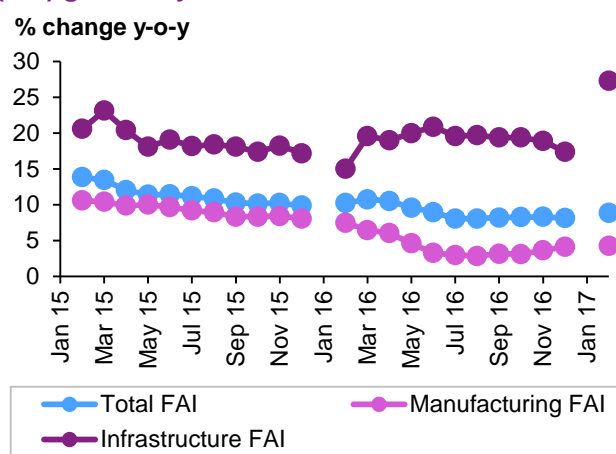
**China's economic** growth picked up in the first two months of the year, reflecting stronger investment and exports as well as restocking in industry. The government's economic plans for 2017, presented at the National People's Congress, indicate that, despite more emphasis on containing financial risks, solid economic growth is still a key objective. This is reflected in a GDP growth target for 2017 of around 6.5%, according to China's government plan and compared with the previous year's goal of 6.5-7.0%. Fiscal policy is to remain supportive of growth, with the cash deficit rising to 4.3% of GDP and continued significant quasi-fiscal activity. Chinese growth became more industry reliant in early 2017 as retail growth slowed to an 11-year low. The warming property market brought upside risks to the forecast of 6.4% real **GDP growth** this year. A revision is likely to be made in the next forecasting round.

**Graph 3 - 26: Chinese retail sales vs. Car sales**



Sources: China Association of Automobile Manufacturers, China National Bureau of Statistics and Haver Analytics.

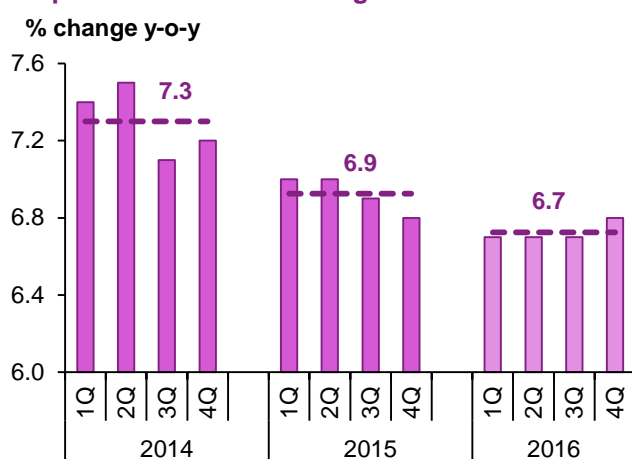
**Graph 3 - 27: Chinese fixed asset investment (FAI) growth by sector**



Sources: China National Bureau of Statistics and Haver Analytics.

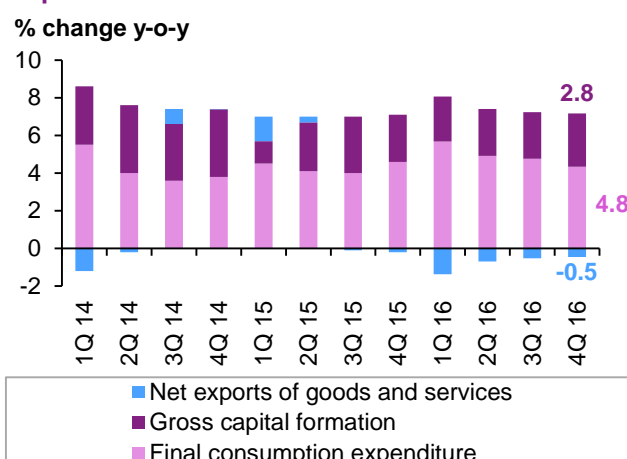
China's financial growth decelerated in February as the government stressed risk management. In terms of monetary policies, **money supply** growth slowed to 11.1%, down from 11.3% in the previous two months. Officials are targeting money supply growth of 12% for 2017, although in 2016 only 11.3% growth was achieved compared with a 13% target.

**Graph 3 - 28: Chinese GDP growth**



Sources: China's National Bureau of Statistics and Haver Analytics.

**Graph 3 - 29: Chinese GDP breakdown**



Sources: China National Bureau of Statistics and Haver Analytics.

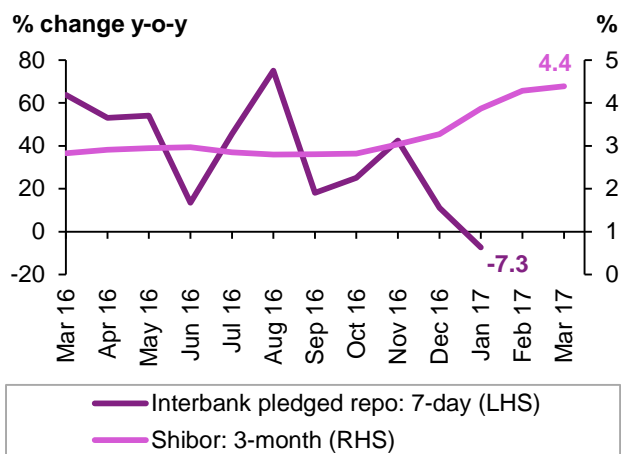
On 23 March, China's State Council issued the **Main Points on Open Government Work in 2017**, establishing a list of initiatives to improve government transparency in the coming year. From a strictly economic data point of view, the policy requires that the National Bureau of Statistics (NBS) expand on explanations of key monthly and quarterly data to assure the public of its quality, efficacy and relevance to developing priorities, such as restructuring. The policy also targets a range of other transparency initiatives, mostly related to tracking existing government policies such as developing new services, protecting the environment and eliminating industrial overcapacity.

According to data published by the European Commission, overall **merchandise trade between China and the 11 EU member states** in the 16+1 grouping (Bulgaria, Czech Republic, Estonia, Croatia, Hungary, Lithuania, Latvia, Poland, Romania, Slovenia and Slovakia) grew by an average annual rate of 7.1% in 2010–15. China's trade with the whole of the EU grew by 5.6% on average in the same period. The benefits of the 16+1 initiative are therefore not overly apparent. Trade between China and the bloc reached around only half the \$100 billion target originally set for 2015. This could extend into doubt over the benefits of increasing connectivity through the "One Belt, One Road" strategy.

The People's Bank of China (PBoC) raised the **interest rate** it charges on short-term open market operations by 10 percentage points (pp) on 16 March 2017 due to strengthening market expectations for higher funding costs in light of rising domestic inflation and property prices, in addition to the Fed's rate increase. The PBoC raised market-based policy rates by 10 basis points on 17 March. The interest rates on 7-day, 14-day, and 28-day reverse repos rose to 2.45%, 2.60% and 2.75%, respectively, and rates on the 6-month and 1-year medium-term lending facility (MLF) moved up to 3.05% and 3.20%, respectively. This is the second hike this year for market-based policy rates, while benchmark deposit and lending rates have remained unchanged since October 2015.

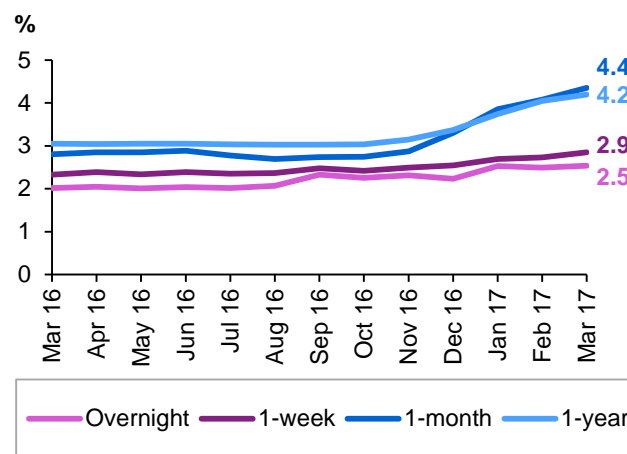
The move to increase interest rates on MLF and open market operations was expected. It follows similar subtle increases in short-term interest rates in January and February. Rapidly rising house prices in some parts of the country, as well as years of credit expansion, leave the financial system exposed to the risk of asset bubbles. The PBoC has warned repeatedly of excessive corporate debt levels and firmer inflation since the end of the 4Q in 2016, along with a downward adjustment to the government's economic growth target for 2017, which has given it room to tighten monetary policy. By raising interest rates on MLF and open market operations, the PBC is specifically targeting money

**Graph 3 - 30: Chinese market-based interest rates**



Sources: People's Bank of China, National Interbank Funding Center and Haver Analytics.

**Graph 3 - 31: Shanghai Interbank offered rate (SHIBOR)**



Sources: National Interbank Funding Center and Haver Analytics.

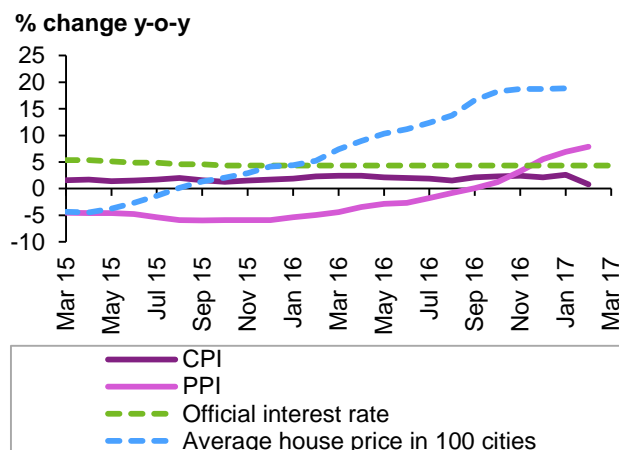
China's **CPI** rose by 0.8% y-o-y in February 2017, compared with a 2.5% rise in January, while markets expected a 1.7% gain. It was the lowest inflation rate since January 2015, as the cost of transport and communication rose at a slower pace (1.7% from 2.3% in January) while food prices fell (-4.3% from 2.7%).

China unexpectedly reported a \$9.15 billion **trade deficit** in February of 2017, compared with a \$28.2 billion surplus a year earlier and missing market expectations of a \$25.75 billion surplus. It was the first monthly trade gap since February 2014, as imports surged while exports fell. In February, exports declined by 1.3% y-o-y, following a 7.9% rise in January, while markets expected 12.3% growth. Imports jumped by 38.1%,



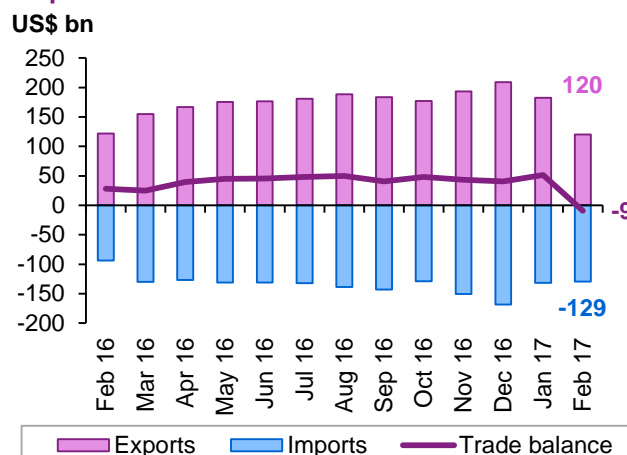
after growing 16.7% in the prior month, way above consensus of a 20.3% rise. In January 2017, China posted a trade surplus of \$51.35 billion. **Exports** from China unexpectedly declined by 1.3% y-o-y to \$120.08 billion in February of 2017, following a 7.9% rise in January, while markets expected 12.3% growth. **Imports** to China soared by 38.1% from a year earlier to \$129.23 billion in February of 2017, compared with 16.7% in the prior month and way above the consensus of a 20.3% rise. It was the fastest increase since early 2012, driven by strong demand for commodities from iron ore to crude oil and coal.

**Graph 3 - 32: Chinese CPI and PPI**



Sources: China Index Academy, China National Bureau of Statistics, Soufan and Haver Analytics.

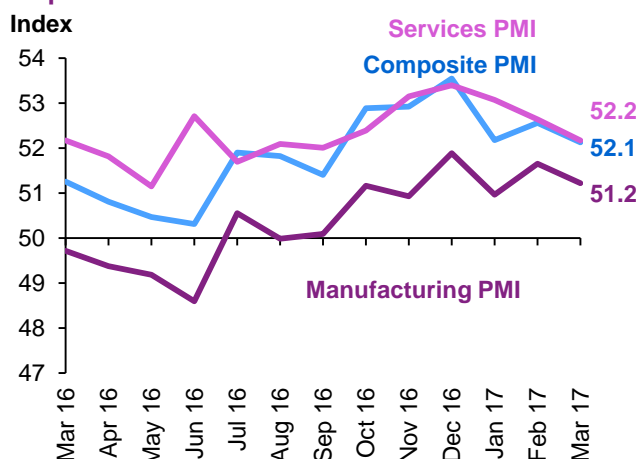
**Graph 3 - 33: Chinese trade balance**



Sources: China Customs and Haver Analytics.

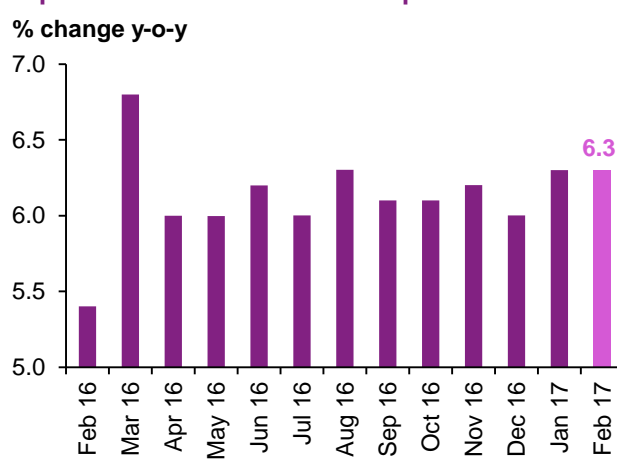
PMI data signalled a further modest improvement in the health of China's manufacturing sector in March. However, growth in production and new orders slowed since February, with new export sales increasing at the weakest pace in three months. Staffing levels, meanwhile, continued on a downward trend, though the rate of job shedding held close to February's marginal pace. More cautionary attitudes towards inventories were highlighted in the latest survey, with falls in both stocks of inputs and finished goods recorded in March. Meanwhile, optimism over the one-year business outlook slipped from February's recent peak, but remained strong overall. The **manufacturing PMI** posted 51.2 in March, down from 51.7 in February, signalling a further improvement in the health of the sector. Although pointing to only a modest rate of improvement, the latest index reading remained among the highest seen over the past four years.

**Graph 3 - 34: Chinese PMI**



Sources: Caixin, IHS Markit and Haver Analytics.

**Graph 3 - 35: Chinese industrial production**



Sources: China National Bureau of Statistics and Haver Analytics.

China's **GDP growth** expectation, despite the negative effects of tight policy in the coming months, shows some upward potential, reflecting stronger investment and exports as well as restocking in industry. Thus it has been revised up to 6.3% from 6.2%.

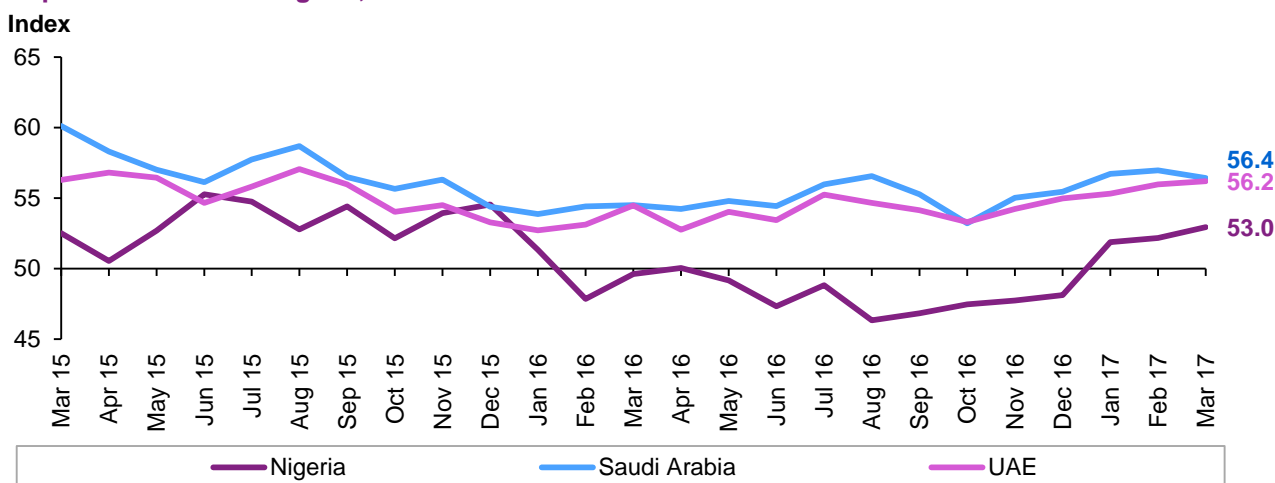
## OPEC Member Countries

According to the General Authority for Statistics, the GDP in **Saudi Arabia** grew by 1.2% y-o-y in 4Q16, which is notably faster than the growth rate registered in 3Q16 of 0.9%. Gross value added in the non-oil sector went from contraction in the 3Q16 to growth of 0.4% y-o-y in 4Q16. The electricity, gas, and water sectors posted growth of 5.8% y-o-y in the 4Q16 vs. 2.4% the previous quarter. Deceleration in construction continued, though at a slower pace of 3.2% in the 4Q16. On an annual basis, GDP expanded by 1.4% in 2016. The country's non-oil private sector expanded in March, according to Emirates NBD Saudi Arabia PMI. This index posted 56.4 in March on the back of continued and fast growth in output and new business.

In **Nigeria**, GDP contraction slowed from 2.3% y-o-y in the 3Q16 to 1.2% in 4Q16. In March 2017, however, the positive momentum continued in the country's private sector as suggested by Stanbic IBTC Bank Nigeria PMI. The index reached its 15-month high of 53.0 in March due to strong growth in output and new business. This has encouraged more firms' purchases to reach their highest since December 2015.

In the **United Arab Emirates**, the non-oil private sector improved further in March, as suggested by the Emirates NBD PMI. The index stood at 56.2 in March, its highest reading in 19 months. The survey revealed growth in business activity by the highest rate in 25 months, while new orders witnessed the fastest expansion in more than one-and-a-half years. Thus, businesses ramped up purchases, increasing stocks to a record high level.

**Graph 3 - 36: PMIs of Nigeria, Saudi Arabia and UAE**



Sources: Emirates NBD, IHS Markit, Stanbic IBTC Bank and Haver Analytics.

## Other Asia

The GDP of **Malaysia** increased by 4.6% y-o-y in 4Q16, highlighting the fastest growth rate of the year. While private final consumption expenditure grew at a slower pace of 6.3% y-o-y and government expenditure declined by 4.2%, Gross Fixed Capital Formation (GFCF) accelerated by a faster pace of 2.4% y-o-y in 4Q16. Additionally, exports grew by 5.8% y-o-y in the last quarter of 2016. The economy registered growth of 4.2% y-o-y in 2016 vs. 5.0% GDP growth in 2015.

In **Thailand**, GDP growth slowed to 3.0% in 4Q16, the lowest figure of the year. This occurred despite a return to growth of government consumption expenditure after a contraction was seen in 3Q16. The GFCF also accelerated by a faster pace of 1.8% y-o-y from 1.0% y-o-y in 3Q16. The last quarter of 2016 witnessed the first rise in imports since mid-2015. Imports rose by 3.4% y-o-y vs. a dip of 1.1% in 3Q16. Exports, on the other hand, ramped up by 1.1% y-o-y in 4Q16. This caused net exports to decline by 16% y-o-y in 4Q16. GDP increased by 3.2% y-o-y for 2016, higher than 2015's growth rate of 2.9%.

## Africa

In **Egypt**, the pound gained 9.2% m-o-m vs. the US dollar in February, restoring some its lost value, which amounted to 85% in the first two months of 2017. Business conditions in Egypt's non-oil private sector worsened in March as suggested by its corresponding PMI. The index registered 45.9 in March, down from February's 46.7 on the back of a deeper deceleration in output and new business.

In **South Africa**, the rand appreciated vs. the US dollar for the sixth consecutive month in March by 1.9%. The country's GDP ended 2016 in positive territory, registering minimal overall growth of 0.2% y-o-y despite a contraction of 0.6% y-o-y in 1Q16. The economy grew by 0.7% y-o-y in 4Q16 as a result of an improvement in private consumption, which increased at the fastest pace in a year by 1.3%. GFCF remained in contraction territory for the fifth consecutive quarter in 4Q16, registering a decline of 4.4% y-o-y. Exports were also negative at the end of 2016, falling by 0.5% y-o-y, while imports declined across the whole year. Imports dropped by 4.1% y-o-y in 2016's final quarter.

## Latin America

The economy of **Argentina** showed another period of GDP contraction in 4Q16. The GDP dropped by a rate of 2.1% y-o-y in 4Q16, bringing the overall decline in GDP to 2.2% y-o-y for the whole of 2016. The only bright spot was in goods and services exports, which increased by 7.7% vs. drops in private and government consumption and GFCF. GFCF showed the sharpest contraction, dropping by 7.7% y-o-y in 4Q16.

Growth in the GDP of **Chile** slowed in 4Q16 to its lowest level since the global financial crisis. Government consumption showed a notable deceleration in growth from 7.1% y-o-y in 3Q16 to only 1.7% in 4Q16. Exports also declined by 2.0% y-o-y compared with somewhat positive growth witnessed in the first three quarters of 2016. Although the GFCF continued its contraction streak for the fifth consecutive quarter in 4Q16, the rate of deceleration was notably lower at 3.2% y-o-y vs. 6.1% in 3Q16.

## Transition region

The GDP of **Poland** posted its highest growth in 2016 in the last quarter at 3.2% y-o-y, thanks to an increase in exports by 7.8% y-o-y and to a smaller shrinking of gross capital formation of 0.5% y-o-y. On the other hand, public and household consumption each showed lower rates of growth in 4Q16. Public consumption expenditure grew by 3.4% y-o-y in 4Q16, down from 4.3% the previous quarter, while household expenditure increased by 4.4% y-o-y in 4Q16 vs. 4.8% in 3Q16.

## Oil prices, US dollar and inflation

The **US dollar** was mixed in March against both major and emerging market currencies. On average, it declined slightly by 0.1% against the Japanese yen, but losses accelerated toward the end of the month when US dollar interest rates declined. The dollar lost 0.4% against the euro and was relatively flat against the Swiss franc. The dollar advanced against the pound sterling by an average of 1.2%, mainly due to signs of economic deceleration in the UK.

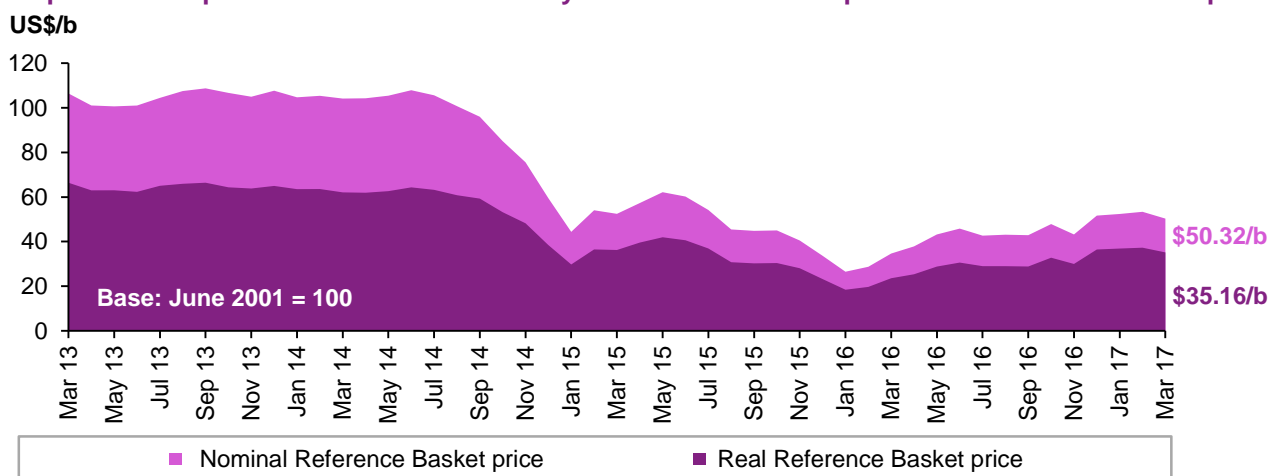
Compared with the Chinese yuan, the US dollar advanced by 0.3% m-o-m on average in March. It decreased by 1.8% m-o-m against the Indian rupee, and is down by 3.0% since the beginning of the year. Compared with the currencies of commodity exporters, the US dollar advanced by 0.8% m-o-m against the Brazilian real, while declining by 0.7% m-o-m against the Russian ruble. Against both currencies, the dollar is down by 6.7% since the beginning of the year.

Against the currencies of **NAFTA trading partners**, the US dollar lost on average 5.4% against the Mexican peso, thereby reversing during the last two months the majority of the gains experienced since the US election. The peso strengthening continues to reflect both general weaknesses in the US dollar, as well as the impact of interest rate hikes by the Central Bank of Mexico and the continuity of the current trade framework between the two countries. Meanwhile, the US dollar gained 2.1% against its Canadian counterpart currency partly on the impact of lower oil prices.

The US dollar generally strengthened in the first half of the month on expectations of an interest rate hike by the **US Fed**, which materialized in its 15 March meeting. However, the path of interest rate increases signalled by the Fed – median projection of two additional rate hikes in 2017 – was lower than the expectation of some market participants. This translated in weakness in the dollar across the board. A further decline in interest rates expectations, and the consequent weakness in the US dollar, occurred in response to the difficulties of the new US administration and the Republican Party to pass health care legislation in the US congress. This was seen as potentially jeopardizing the prospects of growth enhancing legislation in the areas of tax reform and infrastructure spending.

In nominal terms, the price of the **OPEC Reference Basket (ORB)** decreased by \$3.05, or 5.7%, from \$53.37/b in February to \$50.32/b in March. In real terms, after accounting for inflation and currency fluctuations, the ORB decreased to \$35.16/b from \$37.37/b (base June 2001=100). Over the same period, the US dollar was stable against the import-weighted modified Geneva I + US dollar basket<sup>1</sup>, while inflation advanced also flat.

**Graph 3 - 37: Impact of inflation and currency fluctuations on the spot OPEC Reference Basket price<sup>1</sup>**



Source: OPEC Secretariat.

<sup>1</sup> The 'modified Geneva I+US\$ basket' includes the euro, the Japanese yen, the US dollar, the pound sterling and the Swiss franc, weighted according to the merchandise imports of OPEC Member Countries from the countries in the basket.



# World Oil Demand

World oil demand for 2016 remains unchanged from the previous month's report with growth for the year at 1.38 mb/d and total oil consumption at 95.05 mb/d. Forecasts for 2017 world oil demand growth have been revised marginally higher by 10 tb/d, to stand at 1.27 mb/d. Total oil consumption in 2017 is anticipated to stand at 96.32 mb/d. The upward revision was mainly to reflect better-than-expected data for China during the 1Q17. The 'Other Asia' group – which includes India – is anticipated to lead oil demand growth in 2017, followed by China and OECD Americas. OECD Asia Pacific is the only region anticipated to see a decline in oil demand in 2017.

## World oil demand in 2016 and 2017

Table 4 - 1: World oil demand in 2016, mb/d

	2015	1Q16	2Q16	3Q16	4Q16	2016	Change 2016/15	
							Growth	%
Americas	24.59	24.55	24.67	25.12	24.77	24.78	0.19	0.75
of which US	19.84	19.83	20.00	20.32	20.02	20.04	0.20	1.03
Europe	13.75	13.64	13.95	14.41	13.99	14.00	0.25	1.80
Asia Pacific	8.04	8.57	7.64	7.74	8.31	8.06	0.03	0.33
<b>Total OECD</b>	<b>46.38</b>	<b>46.76</b>	<b>46.25</b>	<b>47.27</b>	<b>47.07</b>	<b>46.84</b>	<b>0.46</b>	<b>0.99</b>
Other Asia	12.28	12.69	12.90	12.61	13.09	12.82	0.54	4.39
of which India	4.05	4.54	4.29	4.12	4.58	4.38	0.33	8.19
Latin America	6.56	6.25	6.49	6.76	6.37	6.47	-0.09	-1.38
Middle East	7.97	7.94	7.79	8.37	7.74	7.96	-0.01	-0.16
Africa	3.99	4.12	4.09	4.03	4.14	4.10	0.10	2.59
<b>Total DCs</b>	<b>30.81</b>	<b>31.01</b>	<b>31.27</b>	<b>31.77</b>	<b>31.33</b>	<b>31.35</b>	<b>0.54</b>	<b>1.75</b>
FSU	4.62	4.49	4.37	4.73	5.05	4.66	0.04	0.90
Other Europe	0.67	0.68	0.64	0.68	0.77	0.70	0.02	3.57
China	11.19	11.12	11.51	11.49	11.89	11.51	0.31	2.78
<b>Total "Other regions"</b>	<b>16.49</b>	<b>16.30</b>	<b>16.53</b>	<b>16.90</b>	<b>17.71</b>	<b>16.86</b>	<b>0.38</b>	<b>2.28</b>
<b>Total world</b>	<b>93.68</b>	<b>94.07</b>	<b>94.05</b>	<b>95.94</b>	<b>96.12</b>	<b>95.05</b>	<b>1.38</b>	<b>1.47</b>
Previous estimate	93.68	94.07	94.05	95.94	96.12	95.05	1.38	1.47
Revision	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Note: Totals may not add up due to independent rounding.

Source: OPEC Secretariat.

## OECD

Based on the latest available data, oil demand growth in the OECD regions was kept unchanged from the previous month's level; as such oil demand growth in the OECD region is anticipated to be at 0.24 mb/d y-o-y in 2017 and peak in the 3Q mainly supported by the US summer driving season.

The bulk of the OECD growth is projected to be seen in OECD America, with the US leading the way. OECD Europe is also anticipated to be in positive territory for the third consecutive year, especially after solid data for the first two months of the year, which were primarily supported by higher heating oil requirements due to cold weather. OECD Asia Pacific is the only region expected to conclude 2017 with a negative oil demand growth, with Japan declining, although South Korea is anticipated to provide some support.

**Table 4 - 2: World oil demand in 2017\*, mb/d**

	2016	1Q17	2Q17	3Q17	4Q17	2017	Change 2017/16	
							Growth	%
Americas	24.78	24.77	24.83	25.37	24.93	24.98	0.20	0.79
of which US	20.04	19.97	20.09	20.54	20.17	20.19	0.15	0.75
Europe	14.00	13.72	14.02	14.47	14.05	14.07	0.07	0.51
Asia Pacific	8.06	8.55	7.61	7.71	8.29	8.04	-0.02	-0.31
<b>Total OECD</b>	<b>46.84</b>	<b>47.03</b>	<b>46.46</b>	<b>47.56</b>	<b>47.28</b>	<b>47.08</b>	<b>0.24</b>	<b>0.52</b>
Other Asia	12.82	12.96	13.27	12.97	13.46	13.17	0.34	2.67
of which India	4.38	4.58	4.37	4.30	4.81	4.52	0.13	3.03
Latin America	6.47	6.31	6.53	6.81	6.46	6.53	0.06	0.95
Middle East	7.96	8.07	7.91	8.46	7.85	8.07	0.11	1.36
Africa	4.10	4.23	4.19	4.14	4.26	4.20	0.11	2.64
<b>Total DCs</b>	<b>31.35</b>	<b>31.56</b>	<b>31.90</b>	<b>32.38</b>	<b>32.04</b>	<b>31.97</b>	<b>0.62</b>	<b>1.98</b>
FSU	4.66	4.57	4.43	4.80	5.12	4.73	0.07	1.51
Other Europe	0.70	0.71	0.66	0.70	0.80	0.72	0.02	3.15
China	11.51	11.52	11.80	11.78	12.16	11.82	0.31	2.71
<b>Total "Other regions"</b>	<b>16.86</b>	<b>16.80</b>	<b>16.90</b>	<b>17.28</b>	<b>18.08</b>	<b>17.27</b>	<b>0.40</b>	<b>2.40</b>
<b>Total world</b>	<b>95.05</b>	<b>95.39</b>	<b>95.25</b>	<b>97.22</b>	<b>97.40</b>	<b>96.32</b>	<b>1.27</b>	<b>1.33</b>
Previous estimate	95.05	95.34	95.25	97.22	97.40	96.31	1.26	1.32
Revision	0.00	0.05	0.00	0.00	0.00	0.01	0.01	0.01

Note: \* 2017 = Forecast.

Totals may not add up due to independent rounding.

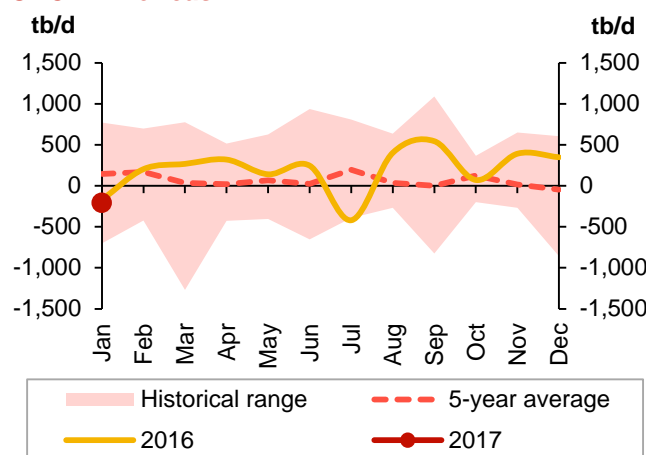
Source: OPEC Secretariat.

## OECD Americas

### US

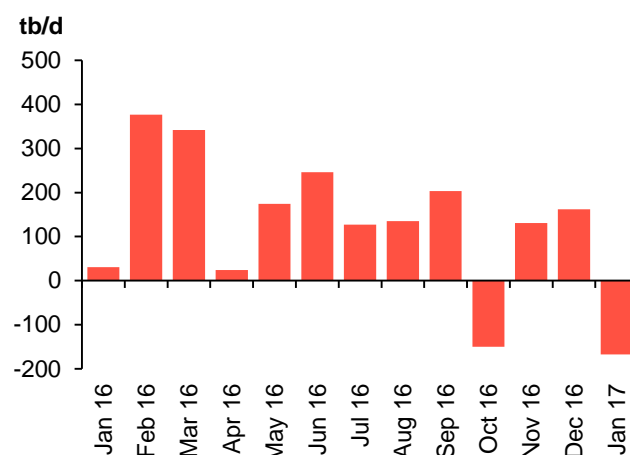
The most recent monthly **US oil demand** data for January 2017 continue to provide grounds for optimism. The data indicate solid growth compared to the same month last year, at approximately 0.2 mb/d, or 1.0% y-o-y.

**Graph 4 - 1: Yearly oil demand growth in OECD Americas**



Sources: National, Joint Organisations Data Initiative and OPEC Secretariat.

**Graph 4 - 2: US gasoline demand, y-o-y change**



Source: US Energy Information Administration.

January 2017 gasoline demand fell by 0.2 mb/d y-o-y, although the drop was substantially milder compared to the one implied by preliminary weekly data. It did not co-move, as normally expected, with robust growth in mileage and vehicle sales, both around 2% y-o-y. Diesel oil requirements remained rather flat, y-o-y. However, similar to gasoline demand, monthly data display a much more optimistic picture as opposed to the weekly information. This is mainly due to higher use in the transportation and industrial sectors despite warmer weather conditions. This also provided the main support for bullish fuel oil requirements, up by more than 35% y-o-y. In line with the holiday season during the first half of January 2017, and a healthy economy, jet/kerosene demand rose by almost 10% y-o-y, accounting for the largest share volume in overall demand growth.

In January 2017, oil demand developments are very much in line with overall US economic developments. Preliminary February and March 2017 data, which are based on averaged weekly figures, show an approximate continuation of the recent upward trend, with road transportation and industrial fuels, notably motor gasoline and diesel oil, accounting for the bulk of these increases. While 2017 US oil demand forecast for the rest of the year remains strongly dependent on the development of the US economy, the risks are rather balanced between the upside and downside, as compared to last month's publication. The current oil price environment is also a significantly influential variable. Trends in vehicle sales underline the return of the dominance of sport utility vehicles (SUVs) in the US, while governmental policies would be another influencing factor on oil demand.

**Table 4 - 3: US oil demand, tb/d**

	January		Change 2017/16	
	2017	2016	tb/d	%
Propane/propylene	1,687	1,577	110	7.0
Gasoline	8,503	8,670	-167	-1.9
Diesel oil	3,781	3,816	-35	-0.9
Jet/kerosene	1,593	1,449	144	9.9
Fuel oil	460	339	121	35.7
Other products	3,210	3,204	6	0.2
<b>US 50</b>	<b>19,234</b>	<b>19,055</b>	<b>179</b>	<b>0.9</b>
<b>US territories</b>	<b>291</b>	<b>277</b>	<b>15</b>	<b>5.3</b>
<b>Total</b>	<b>19,525</b>	<b>19,332</b>	<b>194</b>	<b>1.0</b>

Sources: US Energy Information Administration and OPEC Secretariat.

## Canada

The latest January 2017 data for **Canada** showed overall declines in oil demand, particularly for LPG, gasoline and naphtha, y-o-y. Gains in requirements for diesel oil, fuel oil and to a smaller degree jet/kerosene moderated the overall declines. The projection for 2017 Canadian oil demand remain unchanged from those reported last month, with risks balanced between the upside and downside.

## Mexico

In **Mexico**, February 2017 was another disappointing month for oil demand, characterised by sharply falling requirements for the majority of the main petroleum product categories. The decrease in demand for LPG, and gasoline were particularly substantial, while gains in jet/kerosene and fuel oil requirements partly offset the overall decline. On-going risks for Mexican oil demand are skewed to the downside, depending on the overall development of the economy and the degree of substitution with other primary energy commodities.

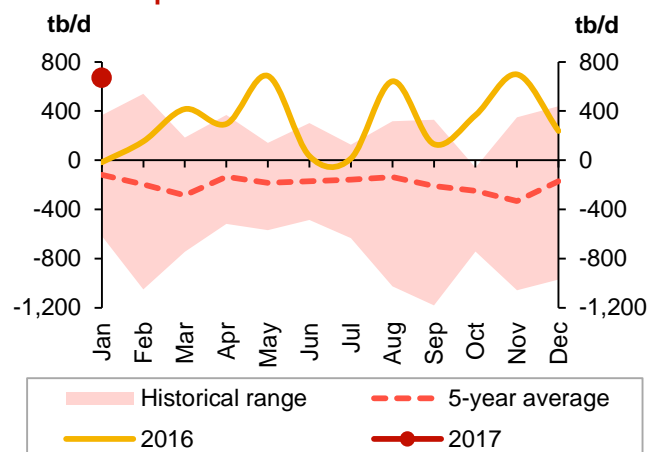
In 2016, **OECD Americas oil demand** grew by 0.19 mb/d as compared to 2015. In 2017, OECD Americas oil demand is projected to grow by a further 0.20 mb/d as compared to 2016.



## OECD Europe

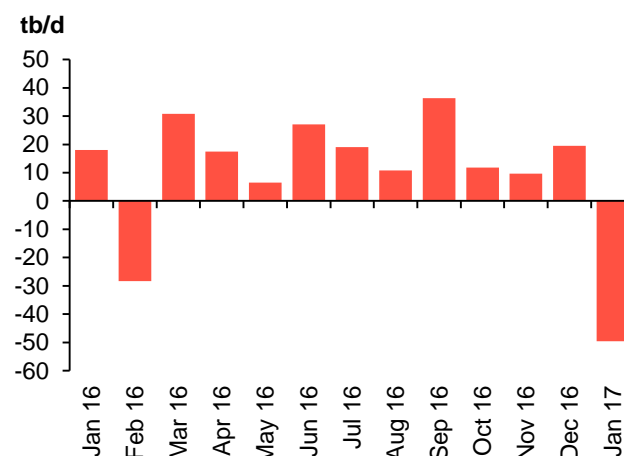
The upward movement in European oil demand during the years of 2015 and 2016 has continued during the first two months of 2017. The main reasons behind these latest positive developments are the improving economy in large parts of the continent, cold weather during the 1Q17, the high growth in vehicle sales and to some extent the low oil price environment, despite high taxations on oil usage. Preliminary February 2017 oil demand data for the **European Big 4**, however, indicate a sharp decrease of around 0.15 mb/d y-o-y. Gains in gasoline demand have been more than offset by declines in all the other main petroleum product categories, notably jet/kerosene and fuel oil. Within the Big 4, February 2017 oil demand grew in Germany and France and fell in Italy and the UK.

**Graph 4 - 3: Yearly oil demand growth in OECD Europe**



Sources: National, Joint Organisations Data Initiative and OPEC Secretariat.

**Graph 4 - 4: UK diesel oil demand, y-o-y change**



Sources: Joint Organizations Data Initiative, UK Department of Energy Climate and Change and OPEC Secretariat.

The factors that could enhance European oil demand in 2017 are improving industrial production and an expanding auto market, which has seen positive growth for almost three years. However, downside risks remain substantial and relate to the development of the economy during 2017 as well as fuel substitution in the industrial and transportation sectors. The latter focuses on rising sales of alternative-fuel vehicles, in combination with governmental incentives favouring their usage in a number of countries. The general expectations for the region's oil demand during 2017 have remained unchanged since last month's projections. Nevertheless, the risks are seen as more skewed to the downside.

**Table 4 - 4: Europe Big 4\* oil demand, tb/d**

	<b>Feb 17</b>	<b>Feb 16</b>	<b>Change</b>	
			<b>tb/d</b>	<b>%</b>
LPG	502	518	-16	-3.1
Naphtha	714	729	-15	-2.0
Gasoline	1,076	1,057	19	1.8
Jet/kerosene	672	742	-70	-9.4
Diesel oil	3,407	3,418	-11	-0.3
Fuel oil	266	291	-25	-8.6
Other products	554	589	-35	-6.0
<b>Total</b>	<b>7,190</b>	<b>7,344</b>	<b>-154</b>	<b>-2.1</b>

Note: \* Germany, France, Italy and the UK.

Sources: JODI, OPEC Secretariat, UK Department of Energy and Climate Change and Unione Petrolifera.

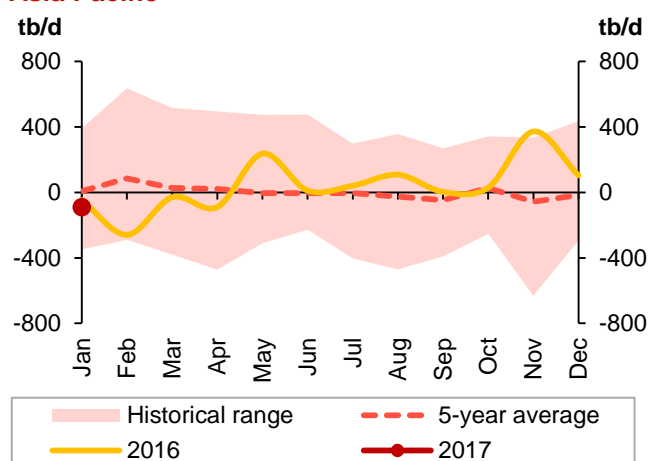
In 2016, **European oil demand** grew by 0.25 mb/d, while oil demand in 2017 is projected to again increase, but to a much lesser extent, by 0.07 mb/d.

## OECD Asia Pacific

### Japan

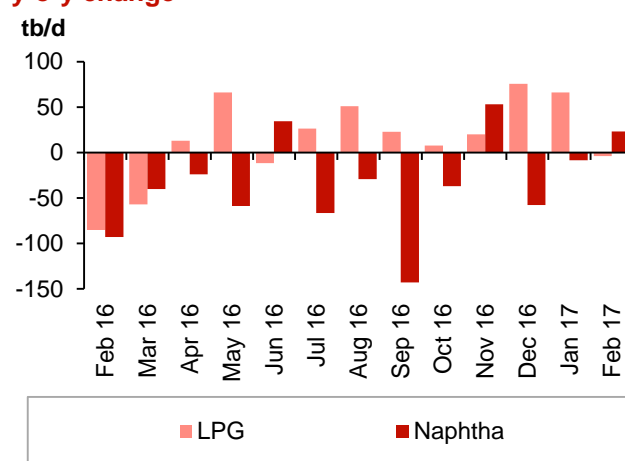
Japan's preliminary February 2017 oil demand figures imply a sharp decrease of 5.3% y-o-y, with bearish requirements in all main petroleum product categories, except naphtha. Demand for direct oil burning in electricity generation, notably crude and fuel oil, was bearish, as a result of warmer weather in combination with fuel substitution to other primary energy commodities. Other major declines during February 2017 were in demand for gasoline and jet/kerosene, while the performance of gas oil and LPG was flat y-o-y. Declining February 2017 oil demand in Japan is very much in line with the overall oil demand picture during the 4Q16, as well as developments in the Japanese economy.

**Graph 4 - 5: Yearly oil demand growth in OECD Asia Pacific**



Sources: National, Joint Organisations Data Initiative and OPEC Secretariat.

**Graph 4 - 6: Japanese LPG and naphtha demand, y-o-y change**



Sources: Ministry of Economy Trade and Industry of Japan, Joint Organizations Data Initiative and OPEC Secretariat.

The outlook for 2017 continue to be strongly skewed to the downside as a result of less optimistic economy forecasts, as well as the likelihood of more nuclear plants becoming operational in the country.

**Table 4 - 5: Japanese domestic sales, tb/d**

	<b>Feb 17</b>	<b>Feb 16</b>	<b>Change</b>	
			<b>tb/d</b>	<b>%</b>
LPG	464	468	-4	-0.8
Naphtha	851	828	23	2.8
Gasoline	869	909	-40	-4.4
Jet/kerosene	655	676	-21	-1.1
Diesel oil	625	630	-5	-0.8
Fuel oil	489	587	-98	-16.7
Other products	59	66	-7	-10.8
Direct crude burning	59	135	-76	-56.5
<b>Total</b>	<b>4,071</b>	<b>4,300</b>	<b>-228</b>	<b>-5.3</b>

Source: Ministry of Economy Trade and Industry of Japan.

### South Korea

In **South Korea**, January 2017 oil demand growth was slightly lower y-o-y, by a mere 0.01 mb/d. Flourishing petrochemical activities, which called for a strong increase in LPG and naphtha requirements, were offset by lower demand for petroleum products in the industrial and transportation sectors, notably gasoline, jet/kerosene, diesel oil, and fuel oil, with the latter being mostly the result of a high historical baseline in 2016. The risks to the 2017 South Korean oil demand outlook are skewed to the upside, as a result of the healthy projected growth in the economy, implying additional oil use in the transportation and industrial sectors.

In 2016, **OECD Asia Pacific** oil demand grew slightly by 0.03 mb/d, the first expansion since 2012. It is expected to revert back to the negative growth trend in 2017, with a y-o-y shrinkage of 0.02 mb/d.

## Non-OECD

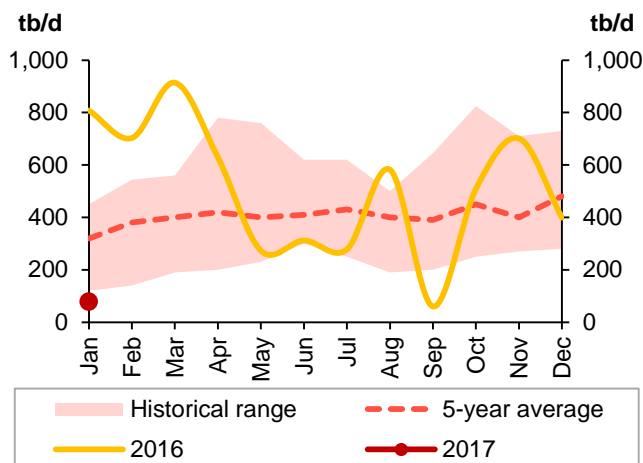
Based on the latest available data, oil demand growth in **non-OECD regions** was adjusted marginally higher in 2017. This took into consideration positive upward revisions in China during the 1Q, which were partially offset by downward revisions in Other Asia and Latin America. The region's oil demand growth is currently anticipated at around 1.02 mb/d y-o-y. Sluggish data from India for the first two months of 2017, as a result of the demonetisation policy implemented in 4Q16, drew negative views on the 1Q17 data for the whole of the Other Asian region. This led to a downward revision for this region of 40 tb/d in 1Q17. However, looking ahead, oil demand projections remain positive, especially in the 2H17 when the consequences of the demonetisation policy in India fade away. Latin America was revised lower, by 30 tb/d in 1Q17, due to slower economic momentum denting oil demand growth. In China, an upward revision of 120 tb/d in 1Q17 was the result of better-than-expected demand in the country's transportation and petrochemical sectors.

## Other Asia

### India

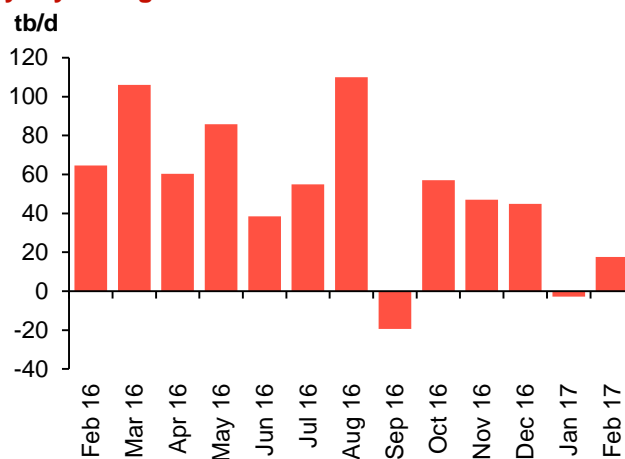
In February 2017, **Indian** oil demand declined for the second consecutive month on the back of the conclusion of the demonetisation policy that weighed on country's oil demand requirements. Additionally the historical level of high growth recorded in the 1Q16, largely due to a drought that limited hydropower supply, resulted in a higher base line for comparison, and thus impacting oil demand in the 1Q17. The dip in oil demand was profound and deep during the month of February, reaching as much as 0.13 mb/d, equating to nearly 3% y-o-y. This put the 1Q17 oil demand projection for the whole of the Other Asian region under check. Total oil consumption reached around 4.46 mb/d in February 2017. The positive growth recorded by LPG and gasoline were largely outweighed by the sharp declines in middle distillates and fuel oil.

**Graph 4 - 7: Yearly oil demand growth in Other Asia**



Sources: National, Joint Organisations Data Initiative and OPEC Secretariat.

**Graph 4 - 8: Indian gasoline demand, y-o-y change**



Sources: OPEC Secretariat, and Petroleum Planning and Analysis Cell of India.

The observed growth in LPG consumption in the recent past remained in February, given the pickup in residential usage which consumes more than 85% of Indian LPG consumption. LPG rose by 23 tb/d, or around 4%, compared with the same period in 2016. Total consumption reached 0.68 mb/d. Indian gasoline demand grew by 18 tb/d, or around 3% y-o-y, with total consumption levels reaching above 0.59 mb/d for only the fourth time on record, according to data that goes back to early last decade. Support is also seen from rising income per capita, as well as the price advantage of gasoline over diesel oil and higher overall sales of two wheeler-passenger gasoline vehicles. According to the Ministry of Petroleum and Natural Gas of India, vehicle sales were on the rise during February 2017, with as much as a 9% rise y-o-y, with passenger cars the largest contributor to the growth. Sales of utility vehicles and vans increased by around 22% and 8%

y-o-y, respectively, while two-wheelers, which use gasoline as a fuel of choice, recorded flat growth y-o-y, selling close to 1.4 million units in February.

On the negative side, jet/kerosene demand declined sharply as a result of the switch from the residential sector to LPG, as well as a weaker buying sentiment after the demonetisation policy limited the purchasing ability of consumers. Jet/kerosene declined by around 13% y-o-y, shedding 42 tb/d compared to February 2016. Equally, Indian diesel oil demand declined in February for the second consecutive month, with declines registered around 70 tb/d, equating to 4% y-o-y, taking demand to 1.75 mb/d, as slower, albeit slightly improving m-o-m construction activities for infrastructure projects weighed on diesel demand. Fuel oil demand growth was also markedly negative as a result of slower-than-anticipated consumption in the power and steel sectors. Products declined by around 35 tb/d, or around 10% y-o-y.

**Table 4 - 6: Indian oil demand by main products, tb/d**

	<b>Feb 17</b>	<b>Feb 16</b>	<b>Change</b>	
			<b>tb/d</b>	<b>%</b>
LPG	678	655	23	3.5
Gasoline	588	570	18	3.1
Jet/kerosene	288	330	-42	-12.8
Diesel oil	1,753	1,824	-71	-3.9
Fuel oil	303	338	-35	-10.4
Other products	852	872	-20	-2.3
<b>Total</b>	<b>4,461</b>	<b>4,588</b>	<b>-127</b>	<b>-2.8</b>

Sources: OPEC Secretariat and Petroleum Planning and Analysis Cell of India.

## Indonesia

The latest available oil demand data for **Indonesia** in January 2017 suggest rising demand for jet/kerosene, mostly used in the aviation sector, and LPG, mostly used for industrial and residential purposes. Other transportation fuels have also grown, particularly gasoline and diesel oil. Total consumption reached 1.48 mb/d, with a growth level of 24 tb/d y-o-y.

## Taiwan

In January 2017, **Taiwan** oil demand increased by around 4% y-o-y, with the bulk of the gains coming from fuel oil, naphtha and LPG, with further positive projections for oil demand in the country for 2017.

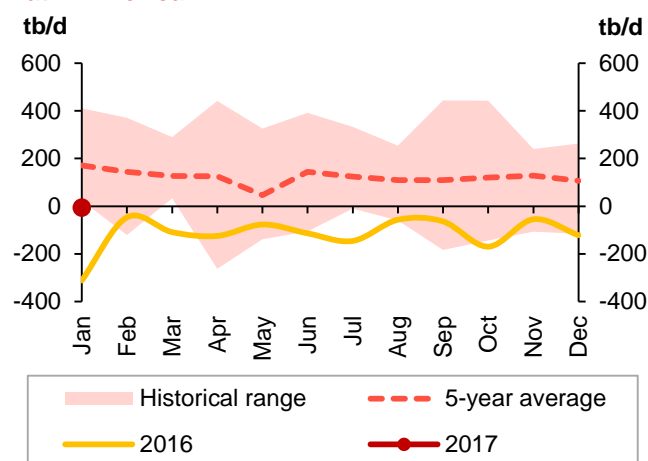
For 2017, the uncertainties for oil demand in Other Asia are currently balanced with expectations for improvements in the region's overall oil demand growth towards the 2H17. Economic improvement in India after the demonetisation policy should provide the largest support to oil requirements in the region. Oil demand is projected to be driven by LPG for residential usage and gasoline for transportation. Elsewhere in the region, oil demand is anticipated to be flat to rising, supported by economic development in the region.

**Other Asia's oil demand** grew by 0.54 mb/d in 2016. For 2017, overall oil demand is forecast to be 0.34 mb/d higher than that for 2016.

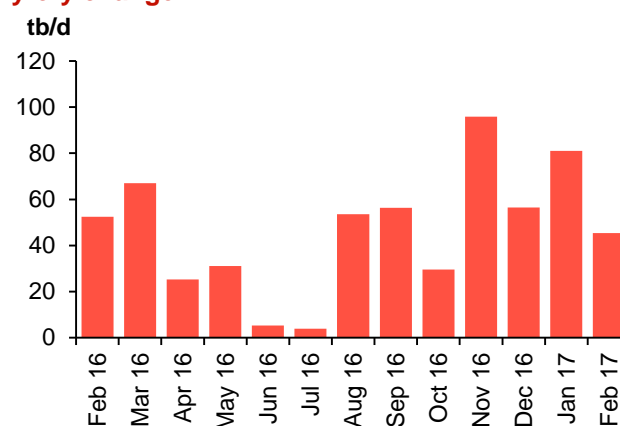
## Latin America

### Brazil

In February 2017, oil demand in **Brazil** eased by 68 tb/d, or around 3% y-o-y. Total oil consumption in the country was 2.27 mb/d. The decline was led by fuel oil and ethanol, which eased by around 35% and 21% y-o-y, respectively. The reduction in fuel oil demand was on the back of strong hydropower usage, which dropped fuel oil demand in the power generation sector. With regard to transportation fuel, reduction in ethanol demand, a continuing trend, was due to a price rise of ethanol, which has reduced the product's competitiveness compared to gasoline, which continued to see growth in February.

**Graph 4 - 9: Yearly oil demand growth in Latin America**

Sources: National, Joint Organisations Data Initiative and OPEC Secretariat.

**Graph 4 - 10: Brazilian gasoline demand, y-o-y change**

Sources: Agência Nacional do Petróleo, Gas e Biocombustíveis of Brazil, Joint Organisations Data Initiative and OPEC Secretariat.

Gasoline consumption increased during the month by a solid 45 tb/d, or around 6.0% y-o-y, mainly due to drivers with flex fuel engines taking advantage of gasoline being more competitively priced against ethanol. Diesel oil demand growth faded in February with a y-o-y drop of 22 tb/d. Total diesel consumption was at 0.91 mb/d. The primary reason for this slowdown is the drop-off in economic activities from a number of sectors, mainly the industrial and construction sectors, although latter have shown slight improvements recently. The other middle distillate fuel, jet/kerosene, witnessed slower momentum in February, with a drop of around 8% y-o-y driven by a weak Brazilian economy. However, demand for transportation fuels in general is expected to pick-up slightly in the 2H17 when the country's overall economic condition is foreseen to improve.

**Table 4 - 7: Brazilian oil demand, tb/d**

	<b>Feb 17</b>	<b>Feb 16</b>	<b>Change</b>	
			<b>tb/d</b>	<b>%</b>
LPG	217	222	-4	-1.9
Gasoline	798	752	45	6.0
Jet/kerosene	112	123	-10	-8.4
Diesel oil	907	929	-22	-2.4
Fuel oil	44	67	-24	-35.3
Alcohol	194	247	-53	-21.4
<b>Total</b>	<b>2,272</b>	<b>2,341</b>	<b>-68</b>	<b>-2.9</b>

Sources: Agência Nacional do Petróleo, Gás Natural e Biocombustíveis of Brazil.

## Argentina

Oil consumption in **Argentina** was broadly flat during the month of January 2017. Some products recorded notable increases, such as LPG, jet/kerosene and gasoline, although this was entirely offset by a large decline in fuel oil consumption. Fuel oil shed around 38% y-o-y in January. Total consumption hovered around 0.65 mb/d. The country is currently anticipated to play a positive role in Latin America's total oil consumption in 2017.

For the rest of 2017, oil demand growth is foreseen to improve from the contraction experienced in 2016, on the back of better economic projections, in addition to a lower base line of 2016. Brazil remains the main contributor to growth, with diesel oil and gasoline being the products of the highest growth potential, fueling the industrial and transportation sectors.

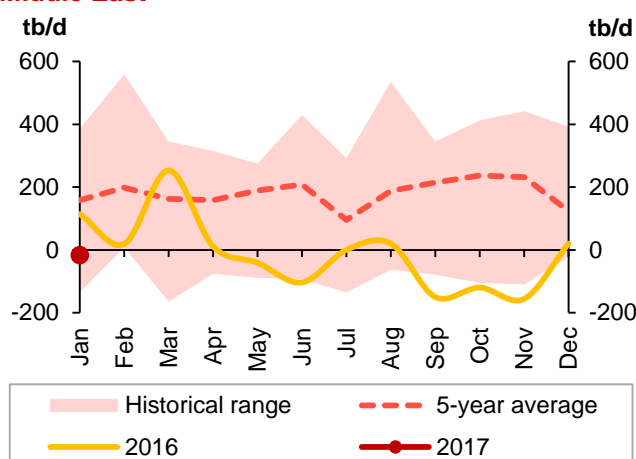
**Latin American oil demand** declined by 90 tb/d 2016. For 2017, oil demand is forecasted to return into positive territory, rising by an expected 62 tb/d.

## Middle East

### Saudi Arabia

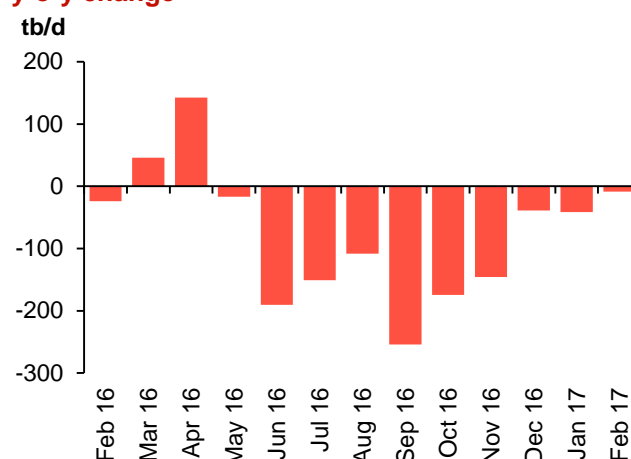
Oil demand in **Saudi Arabia** grew during February, the first time since September 2016 and the third time since February 2016. Oil requirements inched up by around 57 tb/d, or about 3% y-o-y, with total oil consumption at 2.13 mb/d. Fuel oil demand growth led the way during February, rising by a massive 0.13 mb/d, or 42% y-o-y, easily offsetting declines in diesel oil, direct crude burning and jet/kerosene/ Although Saudi Arabia's fuel oil demand typically rises during the summer time, when demand for power generation peaks, demand for the industrial fuel was boosted in February by an increase in capacity for oil-fired power generation plants. The switch away from the direct burning of crude in the power sector, by utilising more natural gas, has impacted demand for direct crude for the purpose of burning, thus causing a decline by around 3% y-o-y. In addition, diesel oil declined by around 9% y-o-y as a result of slower-than-anticipated demand from the transportation and industrial sector.

**Graph 4 - 11: Yearly oil demand growth in Middle East**



Sources: National, Joint Organisations Data Initiative, Direct communication and OPEC Secretariat.

**Graph 4 - 12: Saudi Arabian direct crude burning, y-o-y change**



Sources: Joint Organisations Data Initiative, Direct Communication and OPEC Secretariat.

### Iraq

Oil demand in **Iraq** rose sharply in February 2017 as oil demand recorded a 0.13 mb/d rise during the month, which translates to more than a 21% increase y-o-y. All products categories recorded double digit gains, with jet/kerosene leading the way. All transportation fuels, jet/kerosene, diesel oil and gasoline inched up, by more than 44%, 25% and 14% y-o-y, respectively.

### Other countries

Other countries in the region showed positive performances in February 2017. Oil demand in **Kuwait** increased by around 25 tb/d y-o-y in February 2017, and consumption also increased in the **UAE**, by 15 tb/d y-o-y.

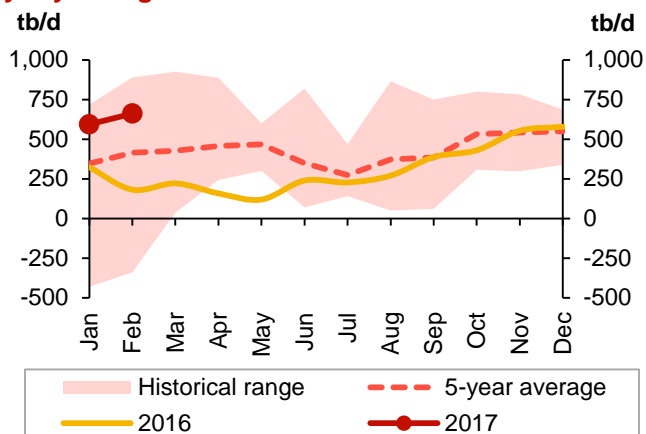
For the rest of 2017, as highlighted in the previous MOMR, oil demand remains highly dependent on the economic performance of the region's major oil producing countries, as well as economic reform measures, including the reduction of subsidies on transportation and power generation fuels in a number of nations, which are likely to impact oil demand.

**Middle East oil demand** for 2016 declined by 13 tb/d. However, it is expected to return to growth during 2017, with an additional 0.11 mb/d.

## China

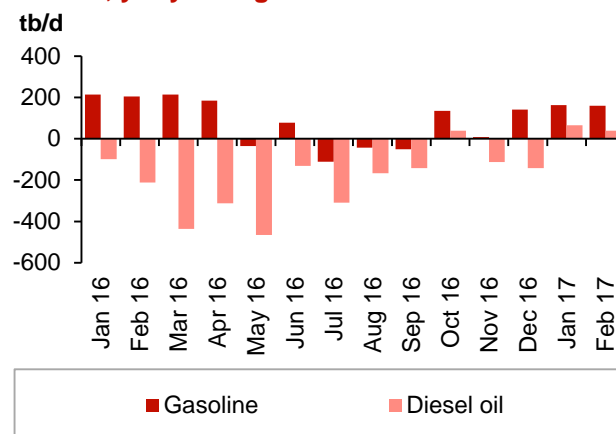
Oil demand growth in **China** registered very solid growth during the month of February 2017, soaring by around 0.66 mb/d, or more than 5% y-o-y, the highest level of growth since June 2016. The strength behind China's oil demand growth remains LPG supply for the country's flourishing petrochemical sector, in addition to transportation fuels, gasoline for the road transportation sector and jet/kerosene for the aviation sector. Demand for diesel oil and fuel oil also supported oil demand growth in February.

**Graph 4 - 13: Chinese apparent oil demand, y-o-y change**



Sources: Argus Global Markets, China OGP (Xinhua News Agency), Facts Global Energy, JODI, National Bureau of Statistics of China and OPEC Secretariat.

**Graph 4 - 14: Chinese diesel oil and gasoline demand, y-o-y change**



Sources: Facts Global Energy, China OGP (Xinhua News Agency), Argus Global Markets, JODI, National Bureau of Statistics, China, OPEC Secretariat calculations.

Jet/fuel demand surged during the month, rising by around 0.15 mb/d, or around 25% y-o-y, expanding for the second consecutive month. This significant rise is mainly the result of higher air travel activities during the Chinese New Year holidays (end of January and the beginning of February). LPG demand also surged in February, increasing by 0.18 mb/d, or around 13% y-o-y. Support for the product originated from improvements in propane dehydrogenation (PDH) plant margins, as well as higher utilisation rates due to new plants ramping up operations, keeping LPG consumption intact. Gasoline consumption followed a similar trend, adding some 0.16 tb/d, or close to 6% y-o-y. The Chinese New Year holidays encouraged additional driving by Chinese consumers. This holiday season usually promotes massive population movements between cities and the countryside, as millions of Chinese travel home for family reunions.

According to the China Association for Automobile Manufacturers (CAAM), in February, sales of passenger cars reached 1.6 million units, up 18% y-o-y. And for the first two months of 2017 combined, sales of passenger cars recorded 3.9 million units, up 6% y-o-y. Sport Utility Vehicle (SUV) sales continued to grow in 2017, with sales up by a solid 22% y-o-y.

Diesel oil demand inched up by 40 tb/d, or 1% y-o-y, compared with February 2016, mostly due to better-than-expected industrial activities and demand for on road diesel. Demand for fuel oil also increased at a higher level than in January, as preliminary data appeared to suggest a rise of 80 tb/d, or around 14% y-o-y. Higher industrial activities, as well as better-than-expected consumption from the power generation sector were the main factors behind the higher February demand levels.

The 2017 oil demand outlook for China remains balanced, with upside potential linked to expansions in the petrochemical sector, especially in PDH plants, further positive developments in the transportation sector and expansion projects in the refinery sector. Conversely, on the downside, the addition of policies supporting a reduction in transportation fuel consumption provides the main negative risk for oil demand growth in 2017.

For 2016, **Chinese oil demand** grew at a rate of 0.31 mb/d, and oil demand in 2017 is projected to record similar growth levels to last year.

# World Oil Supply

Preliminary data indicates that the world's oil supply decreased in March by 0.23 mb/d m-o-m to average 95.82 mb/d, higher by 0.22 mb/d, y-o-y.

Non-OPEC oil supply is estimated to have averaged 57.32 mb/d in 2016, a contraction of 0.69 mb/d y-o-y. This represents a downward revision of 26 tb/d, driven mainly by revisions in historical production data in countries such as Thailand, Argentina and Colombia, as well as lower than expected growth in Canada and Congo in 4Q16.

In 2017, non-OPEC oil supply is projected to grow by 0.58 mb/d, following a 0.18 mb/d upward revision, led by higher growth in the US and a lower decline in Colombia and China, to average 57.89 mb/d. The 2017 growth forecast for the US was revised up again by 0.20 mb/d to average 0.54 mb/d due to expected higher rig counts, and higher well completions, as well as greater access for producers to land and capital.

OPEC NGLs and non-conventional oil production is forecast to grow by 0.13 mb/d in 2017 to average 6.21 mb/d, following growth of 0.14 mb/d in 2016. In March, OPEC production decreased by 153 tb/d, according to secondary sources, to average 31.93 mb/d.

## Non-OPEC supply in 2016 and 2017

Table 5 - 1: Non-OPEC oil supply in 2016, mb/d

	2015	1Q16	2Q16	3Q16	4Q16	2016	Change 2016/15 Growth	%
Americas	21.07	21.00	20.08	20.49	20.82	20.60	-0.47	-2.23
of which US	14.04	13.81	13.68	13.42	13.58	13.62	-0.42	-2.99
Europe	3.77	3.92	3.74	3.64	3.92	3.80	0.03	0.83
Asia Pacific	0.46	0.44	0.42	0.45	0.41	0.43	-0.03	-7.48
<b>Total OECD</b>	<b>25.30</b>	<b>25.36</b>	<b>24.23</b>	<b>24.58</b>	<b>25.14</b>	<b>24.83</b>	<b>-0.47</b>	<b>-1.87</b>
Other Asia	3.70	3.78	3.70	3.69	3.72	3.72	0.02	0.49
Latin America	5.20	4.96	5.07	5.19	5.21	5.11	-0.10	-1.86
Middle East	1.27	1.27	1.28	1.29	1.29	1.28	0.01	0.78
Africa	2.13	2.10	2.05	2.11	2.14	2.10	-0.03	-1.52
<b>Total DCs</b>	<b>12.31</b>	<b>12.11</b>	<b>12.10</b>	<b>12.29</b>	<b>12.35</b>	<b>12.21</b>	<b>-0.10</b>	<b>-0.82</b>
FSU	13.69	13.95	13.73	13.67	14.16	13.88	0.18	1.34
of which Russia	10.85	11.07	10.98	11.03	11.32	11.10	0.25	2.35
Other Europe	0.14	0.13	0.13	0.13	0.13	0.13	0.00	-3.51
China	4.39	4.23	4.12	4.00	3.98	4.08	-0.31	-6.97
<b>Total "Other regions"</b>	<b>18.22</b>	<b>18.32</b>	<b>17.98</b>	<b>17.80</b>	<b>18.27</b>	<b>18.09</b>	<b>-0.13</b>	<b>-0.70</b>
<b>Total non-OPEC production</b>	<b>55.83</b>	<b>55.79</b>	<b>54.31</b>	<b>54.66</b>	<b>55.77</b>	<b>55.13</b>	<b>-0.70</b>	<b>-1.26</b>
Processing gains	2.17	2.19	2.19	2.19	2.19	2.19	0.01	0.60
<b>Total non-OPEC supply</b>	<b>58.00</b>	<b>57.97</b>	<b>56.49</b>	<b>56.85</b>	<b>57.95</b>	<b>57.32</b>	<b>-0.69</b>	<b>-1.19</b>
Previous estimate	58.00	57.99	56.49	56.88	58.01	57.34	-0.66	-1.14
Revision	0.00	-0.01	0.00	-0.03	-0.06	-0.03	-0.03	-0.05

Source: OPEC Secretariat.

**Non-OPEC oil supply in 2016** is estimated to have averaged 57.32 mb/d in 2016, a decline of 0.69 mb/d over the previous year, and a downward revision of 0.03 mb/d from the last assessment. Within the quarters, non-OPEC oil supply encountered historical downward revisions in the 1Q16, 3Q16 and 4Q16, by 12 tb/d, 31 tb/d and 63 tb/d, respectively. Updated production data for these quarters led to the adjustment this



month, with downward revisions of 10 tb/d for Latin America, 8 tb/d for Africa, 5 tb/d for Other Asia and a minor 2 tb/d for the OECD.

According to preliminary and estimated data, total non-OPEC supply in 4Q16 decreased by 0.33 mb/d over the same period a year earlier. During 2H16, non-OPEC supply decreased by 0.74 mb/d compared with the same period in the previous year, while it dropped by 0.63 mb/d in the 1H16 over the 1H15.

Non-OPEC supply in 2016 saw strong declines in OECD Americas (0.47 mb/d), China (0.31 mb/d), and Latin America (0.10 mb/d), while growth was seen in the FSU (0.18 mb/d), driven by robust output from Russia. The estimated oil supply decline in the OECD Americas in 2016 compares with growth of 0.93 mb/d in 2015. This decline relates mostly to reduced US onshore crude oil output, rather than annual declines in Mexico or outages in the Canadian oil sands. Chinese crude oil production was weaker than expected, according to various sources, due to reduced onshore performance, mature fields and low investment from the main domestic companies. In Latin America, total oil supply was disappointing in 2016 following a remarkable drop in Brazilian yearly growth compared with 2015, as well as a higher annual decline in Colombia.

**Table 5 - 2: Non-OPEC oil supply in 2017\*, mb/d**

	2016	1Q17	2Q17	3Q17	4Q17	2017	Change 2017/16 Growth	%
Americas	20.60	20.85	20.94	21.28	21.61	21.17	0.57	2.78
of which US	13.62	13.78	14.13	14.25	14.48	14.16	0.54	3.96
Europe	3.80	3.88	3.74	3.56	3.84	3.75	-0.05	-1.33
Asia Pacific	0.43	0.38	0.43	0.42	0.39	0.40	-0.02	-5.34
<b>Total OECD</b>	<b>24.83</b>	<b>25.11</b>	<b>25.11</b>	<b>25.25</b>	<b>25.84</b>	<b>25.33</b>	<b>0.50</b>	<b>2.01</b>
Other Asia	3.72	3.72	3.69	3.66	3.64	3.68	-0.05	-1.21
Latin America	5.11	5.21	5.22	5.25	5.34	5.25	0.15	2.87
Middle East	1.28	1.24	1.22	1.23	1.23	1.23	-0.05	-4.14
Africa	2.10	2.11	2.12	2.19	2.20	2.16	0.05	2.58
<b>Total DCs</b>	<b>12.21</b>	<b>12.28</b>	<b>12.25</b>	<b>12.33</b>	<b>12.40</b>	<b>12.31</b>	<b>0.10</b>	<b>0.84</b>
FSU	13.88	14.04	13.81	14.01	14.10	13.99	0.11	0.80
of which Russia	11.10	11.19	10.97	11.18	11.21	11.14	0.04	0.32
Other Europe	0.13	0.13	0.14	0.14	0.15	0.14	0.01	6.68
China	4.08	3.97	3.92	3.90	3.91	3.92	-0.16	-3.86
<b>Total "Other regions"</b>	<b>18.09</b>	<b>18.14</b>	<b>17.87</b>	<b>18.05</b>	<b>18.15</b>	<b>18.05</b>	<b>-0.04</b>	<b>-0.21</b>
<b>Total non-OPEC production</b>	<b>55.13</b>	<b>55.52</b>	<b>55.23</b>	<b>55.63</b>	<b>56.39</b>	<b>55.70</b>	<b>0.56</b>	<b>1.02</b>
Processing gains	2.19	2.20	2.20	2.20	2.20	2.20	0.01	0.50
<b>Total non-OPEC supply</b>	<b>57.32</b>	<b>57.72</b>	<b>57.43</b>	<b>57.83</b>	<b>58.58</b>	<b>57.89</b>	<b>0.58</b>	<b>1.00</b>
Previous estimate	57.34	57.80	57.26	57.57	58.34	57.74	0.40	0.70
Revision	-0.03	-0.08	0.17	0.26	0.24	0.15	0.18	0.31

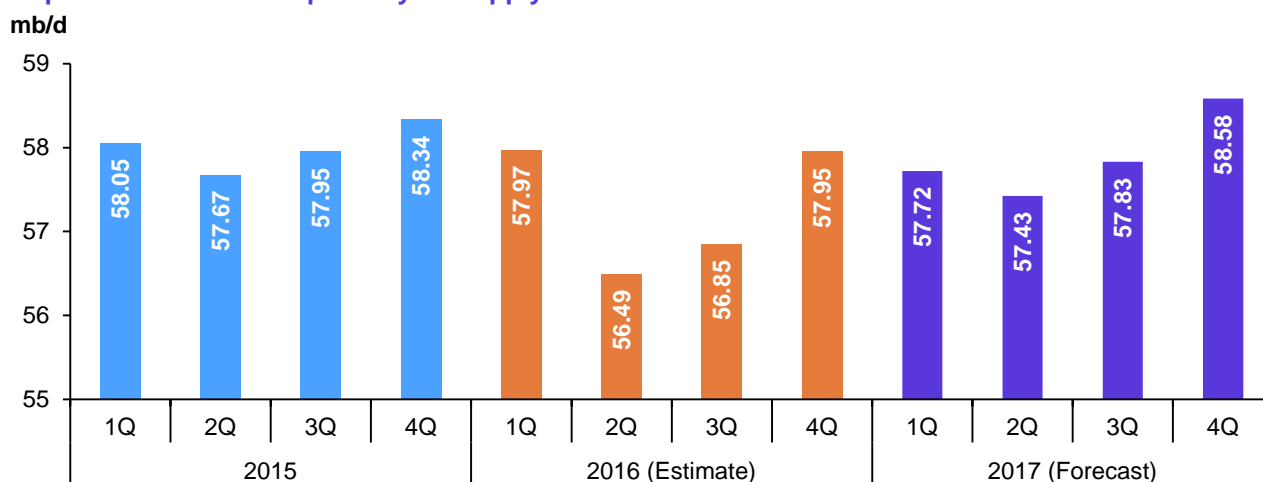
Note: \* 2017 = Forecast.

Source: OPEC Secretariat.

For **2017**, non-OPEC oil supply is now projected to grow by 0.58 mb/d, up by 176 tb/d from the previous *MOMR*, to average 57.89 mb/d. This is due to higher expectations for US growth – revised up by 200 tb/d – along with lower declines in Colombia and China following revisions of 23 tb/d and 26 tb/d, respectively. Offsetting some of this increase are downward revisions to expected growth in Canada and Brazil has been adjusted down by 53 tb/d and 56 tb/d, respectively.

From the supply point of view, it is evident that there are many projects waiting to come on stream in the coming years. The period 2017-2019 is likely to see the largest production increase from mega projects in the industry's history. Large projects in Brazil, Russia, Canada and the Gulf of Mexico are expected to reach completion and add to global supply between 2017 and 2019. Combined with new shale output, these projects could add another 1 mb/d in the coming years. Many of these projects, costing billions of dollars and taking many years to bring online, were initiated back when oil prices traded at \$100/b.

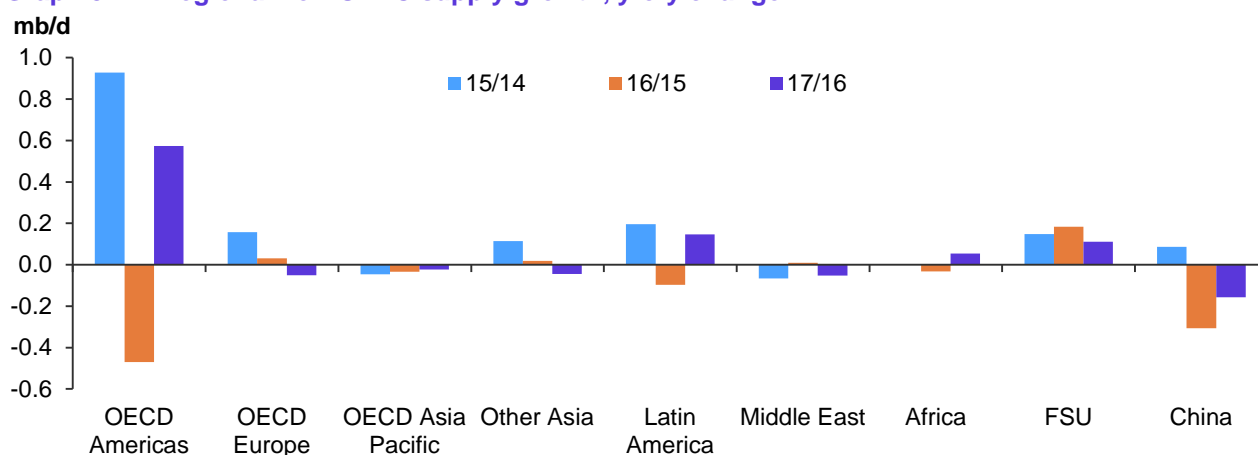
Graph 5 - 1: Non-OPEC quarterly oil supply



Source: OPEC Secretariat.

The forecast for non-OPEC supply in 2017 will also depend on how much US tight oil production improves in the coming months. Most sources anticipate a rebound in shale oil output this year, supported by the oil price recovery and the capital spending increases in this sector.

Graph 5 - 2: Regional non-OPEC supply growth, y-o-y change



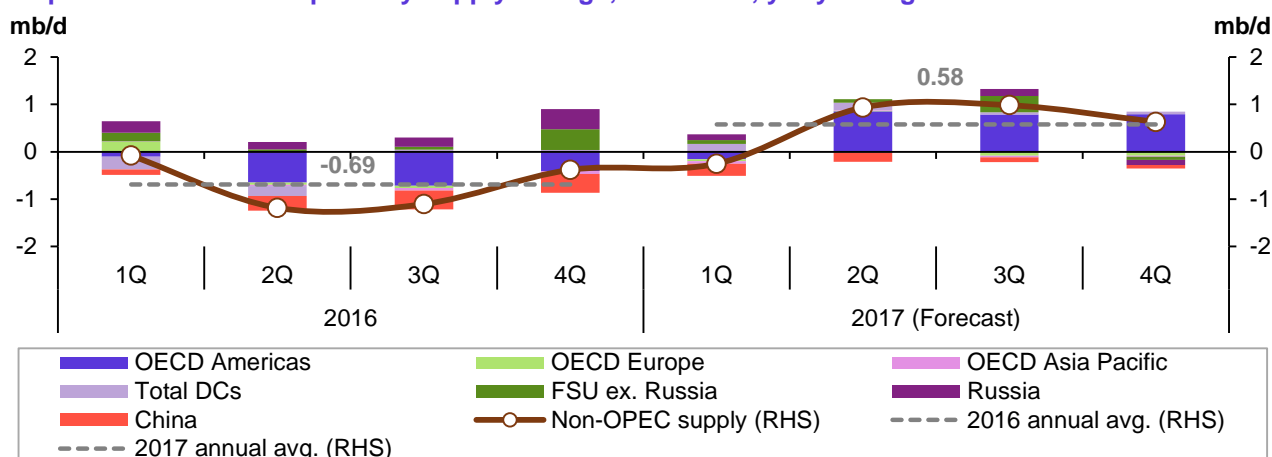
Note: 2017 = Forecast.

Source: OPEC Secretariat.

On a country-by-country basis, the main contributors for growth in 2017 are expected to be the US with 0.54 mb/d, Brazil with 0.21 mb/d, Canada with 0.21 mb/d, Kazakhstan with 0.14 mb/d, Africa other mainly Ghana with 0.05 mb/d, Russia with 0.04 mb/d and Congo with 0.03 mb/d. On the flip side, declines are envisaged in Mexico with 0.18 mb/d, China with 0.16 mb/d, Azerbaijan with 0.07 mb/d, Indonesia with 0.05 mb/d as well as Oman and Norway are anticipated to each decline by 0.04 mb/d.

Regarding regional non-OPEC supply changes, **Graph 5-3** shows that the main rebound in annual growth will be in OECD Americas, and to some extent, DCs, particularly Latin America.

Graph 5 - 3: Non-OPEC quarterly supply change, 2016-2017, y-o-y change



Source: OPEC Secretariat.

At the end of March 2017, crude prices rebounded mainly due to supply disruptions in Libya including shut-in of around 0.27 mb/d at the Sharara and Wafa oil fields, as well as lower annual output growth expectations in Canada and Brazil due to the expected longer time for maintenance and the late start-up of Brazil's Lula North FPSO in late 2017.

Table 5 - 3: Non-OPEC supply forecast comparison in 2016 and 2017\*, mb/d

Region	2016	Change 2016/15	2017	Change 2017/16
OECD Americas	20.60	-0.47	21.17	0.57
OECD Europe	3.80	0.03	3.75	-0.05
OECD Asia Pacific	0.43	-0.03	0.40	-0.02
<b>Total OECD</b>	<b>24.83</b>	<b>-0.47</b>	<b>25.33</b>	<b>0.50</b>
Other Asia	3.72	0.02	3.68	-0.05
Latin America	5.11	-0.10	5.25	0.15
Middle East	1.28	0.01	1.23	-0.05
Africa	2.10	-0.03	2.16	0.05
<b>Total DCs</b>	<b>12.21</b>	<b>-0.10</b>	<b>12.31</b>	<b>0.10</b>
FSU	13.88	0.18	13.99	0.11
Other Europe	0.13	0.00	0.14	0.01
China	4.08	-0.31	3.92	-0.16
<b>Non-OPEC production</b>	<b>55.13</b>	<b>-0.70</b>	<b>55.70</b>	<b>0.56</b>
<b>Processing gains</b>	<b>2.19</b>	<b>0.01</b>	<b>2.20</b>	<b>0.01</b>
<b>Non-OPEC supply</b>	<b>57.32</b>	<b>-0.69</b>	<b>57.89</b>	<b>0.58</b>

Note: \* 2017 = Forecast.

Source: OPEC Secretariat.

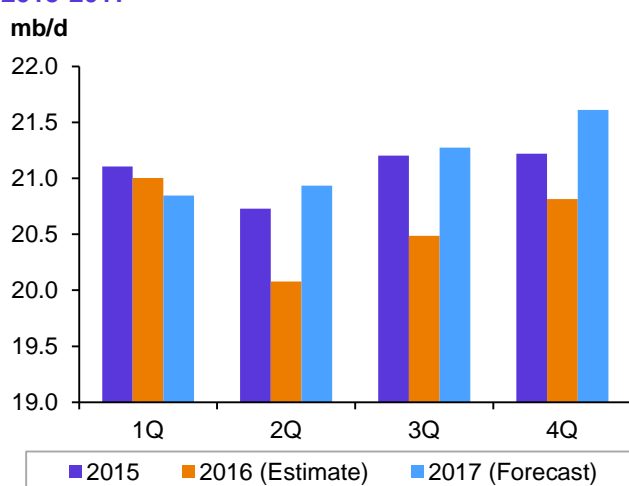
## OECD

Total OECD liquids supply in 2016 is estimated to contract by 0.47 mb/d to average 24.83 mb/d, unchanged from March's MOMR. In 2017, OECD supply is forecast to average 25.33 mb/d, representing growth of 0.50 mb/d, following an upward revision of 110 tb/d over last month's estimate.

## OECD Americas

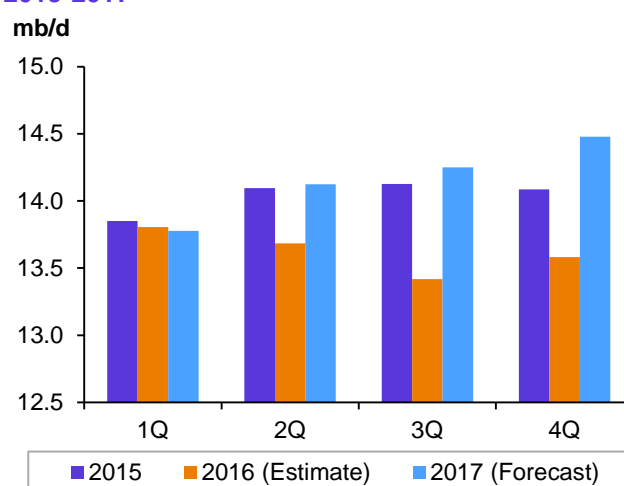
OECD Americas' oil supply in 2016 is estimated to average 20.60 mb/d. This is a decline of 0.47 mb/d y-o-y and a minor downward revision of 4 tb/d, m-o-m. In 2016, oil supply declined in the US and Mexico, while it grew in Canada. In 2017, oil supply is expected to grow by 0.57 mb/d to average 21.17 mb/d, in the region. This is an upward revision of 147 tb/d and mostly due to higher expected US onshore crude output. Canada is also expected to see robust growth of 0.21 mb/d in 2017, while a decline of 0.18 mb/d is anticipated in Mexico.

**Graph 5 - 4: OECD Americas quarterly oil supply, 2015-2017**



Source: OPEC Secretariat.

**Graph 5 - 5: US quarterly oil supply, 2015-2017**



Source: OPEC Secretariat.

## US

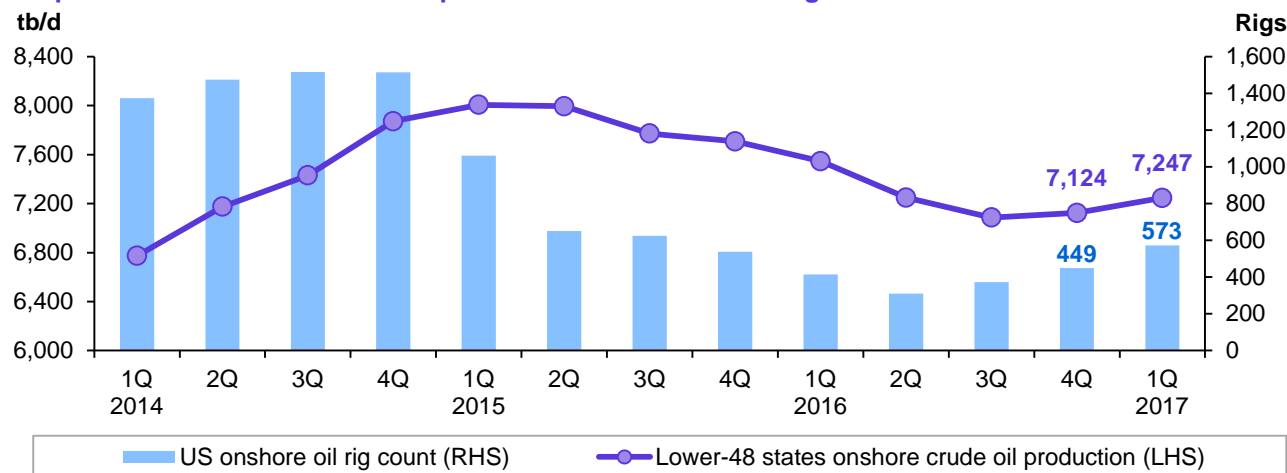
US crude oil production averaged 8.84 mb/d in January 2017, 0.23 mb/d higher than in December 2016, of which 19 tb/d is attributed to oil output growth in the US Gulf of Mexico (GoM), following a continuation in the ramp up of old fields. Crude oil production in Texas and North Dakota increased by 41 tb/d and 34 tb/d m-o-m, to average 3.2 mb/d and 0.97 mb/d, respectively. Oil production in Colorado, Montana and Ohio also increased, while oil output declined by a minor amount in Alaska in January. US NGLs output in January increased by 62 tb/d y-o-y to 3.37 mb/d, mostly through an increase in ethane output, compared to a 24 tb/d decline in the output of butanes and isobutanes. Overall US liquids production was steady at 13.52 mb/d in January, compared to December, but lower by 0.2 mb/d, y-o-y. It can be expected that any move towards higher prices will likely lead to resurgence in US tight oil production from the major shale regions.

US onshore lower-48 states crude oil output (excluding Alaska) declined from a peak of 7.52 mb/d in 2Q15 to bottom at 6.62 mb/d in 4Q16. US crude oil production has since seen an increase from October until the end of March 2017, based on monthly data, as well as the preliminary weekly production data, averaging 6.72 mb/d in 1Q17. This shows that after nine consecutive months of an expanding US oil rig count – it was up by 263 to 573 for onshore fields at the end of March over the past nine months– crude production increased by 101 tb/d, over the lowest output level of 6.62 mb/d in the 4Q16.

In terms of US tight oil production, output declined by 0.59 mb/d from a peak of 4.65 mb/d in March 2015 to average 4.06 mb/d in November 2016. However, with the pick-up in drilling activity, as well as increasing cashflows in the tight oil industry, US tight crude output is expected to rise quickly and increase 335 tb/d for the overall of 2017.

In March 2017, in terms of permitting activity in Permian, Texas, according to data from the Railroad Commission of Texas (Texas RRC). There were 525 horizontal new drilling permits issued last month, which surpasses a previous all-time high, 500 permits to drill, approved in September 2014. Growth of 280% in Permitting activity is seen since bottom in January 2016 when only 138 new drill permits were issued. Both Midland and Delaware platforms exhibit an upward trend, with 316 and 209 permits issued last month, respectively. According to Rystad Energy, not only did the Midland County have the highest number of new drill permits issued last month, it has grown its share of all horizontal new drill permits issued in Permian, TX from 8% to 18%. It was followed by Reeves County that also had 18% of all new horizontal permits in Permian, TX issued in March 2017 – up from 13% during the old peak in September 2014.

**Graph 5 - 6: US onshore crude oil production vs. Onshore oil rig count**

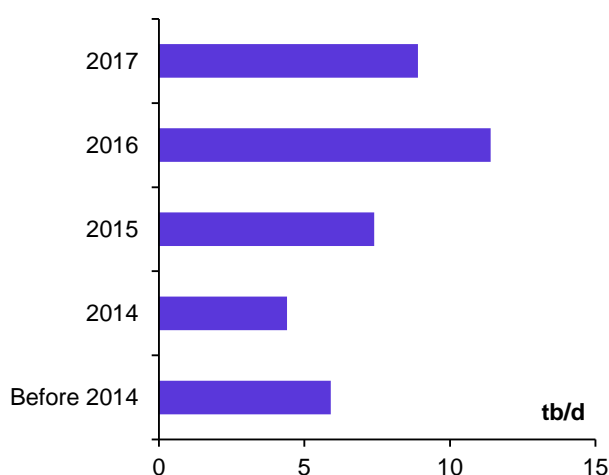


Sources: Baker Hughes, US Energy Information Administration and OPEC Secretariat.

## Crude output recovery in Bakken in January 2017

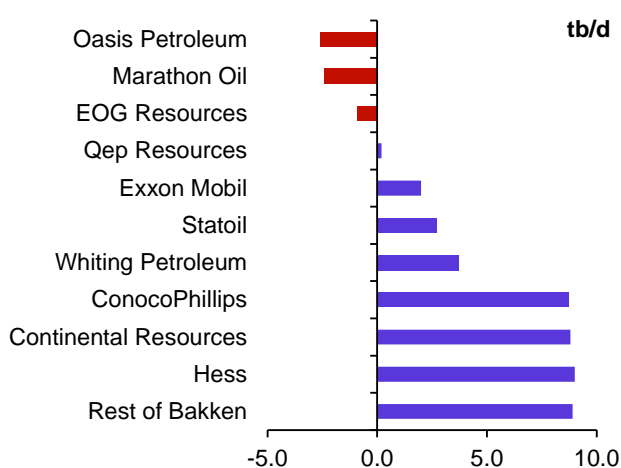
After a severe 86 tb/d drop in the last month of 2016, Bakken oil production bounced back in January 2017, adding around 35-40 tb/d. While completion activity remained seasonally low in the period December 2016-January 2017, with 35-50 frack jobs completed per month, the general recovery was driven by the reactivation of producing facilities that were shut-in amid winter storms in late 2016. Splitting crude production addition in January 2017 by vintage. According to Rystad Energy analysis, not only recent start-ups exhibited growth, with wells that came on-line in 2015, 2014 and before 2014 adding 7.4 tb/d, 4.3 tb/d and 5.8 tb/d, respectively. Among the major operators, the largest monthly additions of 8-9 tb/d were delivered by Continental Resources, Hess and ConocoPhillips. Minor operators also added a combined 9 tb/d, with nearly 45% of this growth corresponding to the activity of the Slawson Exploration in Mountrail County. Completion activity in the Bakken is only expected to accelerate from late 1Q17, but Rystad Energy sees further production growth potential already in February-March 2017 as volumes from shut-in facilities gradually come back.

**Graph 5 - 7: Oil production addition by well start-up year in Bakken, North Dakota, January 2017**



Sources: Rystad Energy and OPEC Secretariat.

**Graph 5 - 8: Oil production addition by operator in Bakken, North Dakota, January 2017**



Sources: Rystad Energy and OPEC Secretariat.

Total US NGLs production increased by 121 tb/d m-o-m to average 3.54 mb/d in January, and on an annual basis, NGLs increased by 136 tb/d y-o-y to average 3.48 mb/d in 2016. Around 72% of the total NGLs production came from unconventional sources of shale. The offshore sector contributed 130 tb/d of the total NGLs output in 2016. Production increased in all regions except for the West Coast. Regarding the breakdown: propane and butanes – commonly referred to as Liquefied Petroleum Gases (LPG) – increased by around 52% to average 1.8 mb/d, while ethane rose 36% to 1.27 mb/d and ‘pentanes plus’ increased to 0.43 mb/d. Much of the rise in LPG production has been driven by increasing production at natural gas processing plants. The increase in US LPG production, alongside relatively stable domestic demand, has created a growing LPG surplus in the US, which has resulted in increased exports since 2010. In 2017, it is expected that US NGLs output will grow by 0.24 mb/d, to average 3.72 mb/d, with about 87% of the growth anticipated to be extracted from tight sources.

Table 5 - 4: US liquids production breakdown

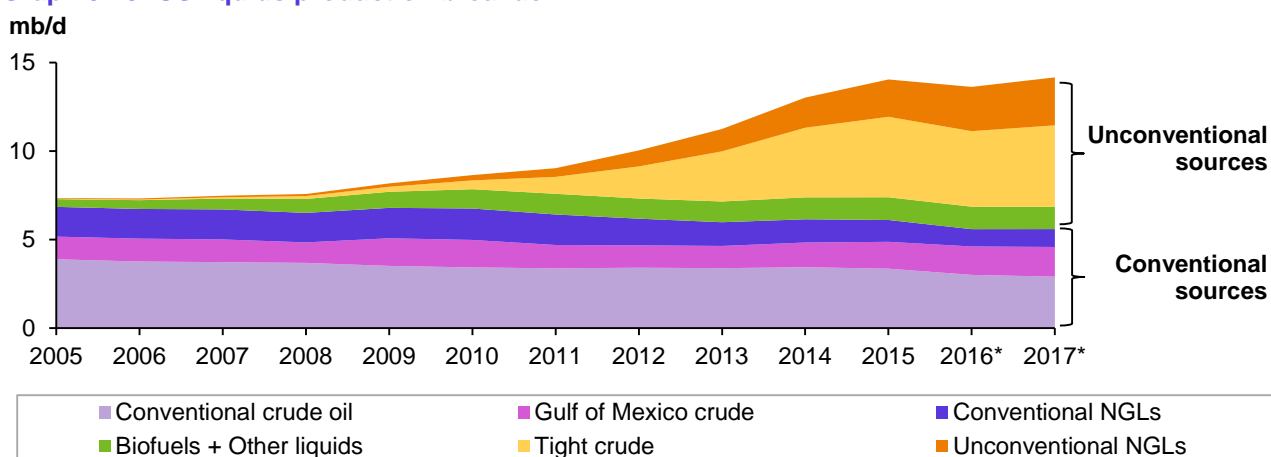
	2014	2015	Change 2015/14	2016	Change 2016/15	2017	Change 2017/16
<b>Tight crude</b>	3,932	4,545	614	4,266	-279	4,601	335
<b>Gulf of Mexico crude</b>	1,397	1,515	118	1,606	91	1,676	70
<b>Conventional crude oil</b>	3,435	3,355	-80	3,002	-353	2,903	-99
<b>Unconventional NGLs</b>	1,703	2,108	405	2,500	392	2,710	210
<b>Conventional NGLs</b>	1,311	1,234	-77	978	-256	1,010	32
<b>Biofuels + Other liquids</b>	1,238	1,283	45	1,269	-14	1,259	-10
<b>US total supply</b>	<b>13,016</b>	<b>14,041</b>	<b>1,025</b>	<b>13,621</b>	<b>-420</b>	<b>14,159</b>	<b>538</b>

Note: \* 2017 = Forecast.

Sources: Energy Information Administration, Rystad Energy and OPEC Secretariat.

In the US GoM, it is estimated that around 1.61 mb/d of crude oil and condensate was produced in 2016, indicating a growth of 0.09 mb/d y-o-y. In 2017, it is expected that crude oil production will see further growth of 70 tb/d over 2016, to reach 1.68 mb/d. This will come mainly from project ramp-ups such as; Jack/St Malo, Na Kika, King, Phoenix, Holstein, Horn Mountain, Thunder Horse, Delta H0use, Tubular Bells, Stones, Kodiak, Gunflint, Dalmatian, Heidelberg, Lucius, Mars B, Cardamom Deep and Rio Grande, mostly regular crude oil with an API degree greater than 23. Four new small projects – Coelacanth, Odd Job, South Santa Cruz and Barataria – are also expected to start-up in 2017.

Graph 5 - 9: US liquids production breakdown



Note: \* 2016 = Estimate and 2017 = Forecast.

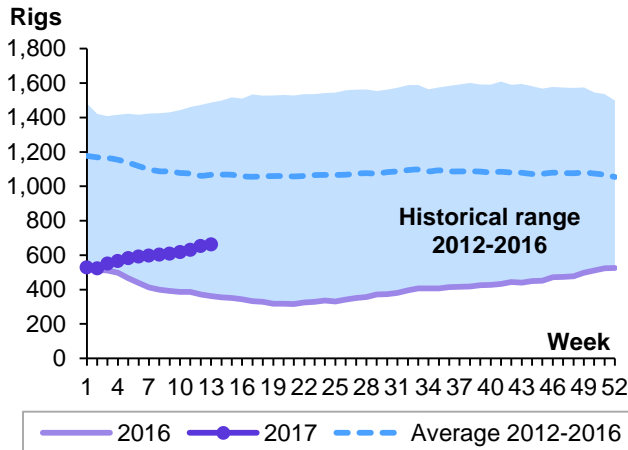
Sources: Energy Information Administration, Rystad Energy and OPEC Secretariat.

US total liquids production in 2017 is forecast to grow by 0.54 mb/d y-o-y, to average 14.16 mb/d. This forecast has been revised up by 0.20 mb/d this month, compared to last month's MOMR, following recent drilling activities in the most prolific tight oil regions. In 2017, crude oil production is forecast to grow by 0.31 mb/d after a deduction for annual declines of around 100 tb/d, to average 9.2 mb/d, depending on rig counts, as well as the number of completed wells, following a decline in 2016 of approximately 0.54 mb/d. Declines in onshore conventional crude in 2017 will be somewhat offset by growth of 0.07 mb/d in the GoM, as well as tight crude growth. NGLs output is also expected to increase in 2017 amid an increase in natural gas prices. The main component of US oil output – tight oil – is forecast to grow by at least 0.34 mb/d. The number of drilling rigs and the reactivation of companies' spending are the two most important factors leading to an expected output surge in the coming months.

## US oil rig count

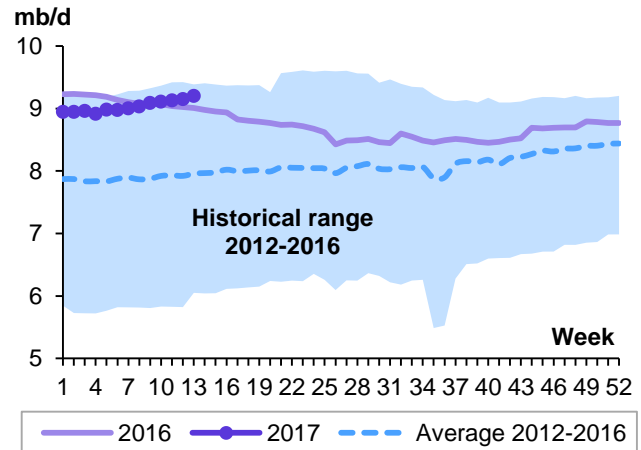
According to Baker Hughes' weekly report for 31 March 2017, the total number of drilling rigs in the US increased by 374 units y-o-y, to 824 rigs. This was up by 68 units m-o-m in March. Oil rigs increased by 53 units to 662 rigs, while gas rigs increased by 14 units m-o-m to 160 rigs.

**Graph 5 - 10: US weekly oil rig count**



Sources: Baker Hughes, US Energy Information Administration and OPEC Secretariat.

**Graph 5 - 11: US weekly crude oil production**



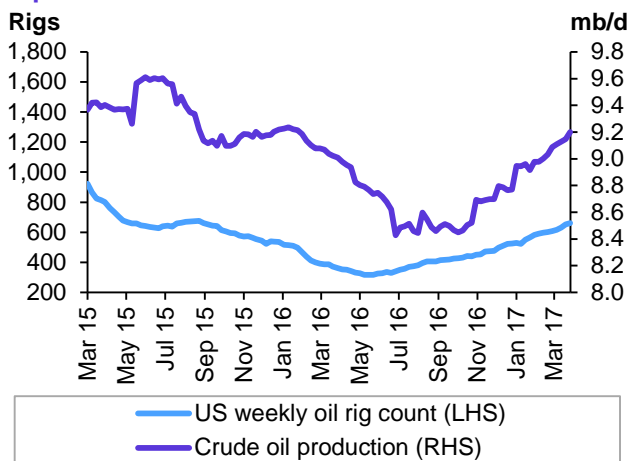
Sources: US Energy Information Administration and OPEC Secretariat.

In terms of well trajectory, the number of horizontal wells double y-o-y, to 685 rigs. Moreover, rigs for directional and vertical wells increased by 21 units and 14 units, y-o-y, to 70 rigs and 69 rigs, respectively.

By basins, the number of oil rigs in March compared to the previous month increased by 6 units to 64 rigs in the Eagle Ford, by 3 units to 24 rigs in the Niobrara, by 9 units to 313 rigs in the Permian and by 5 units to 41 rigs in the Williston.

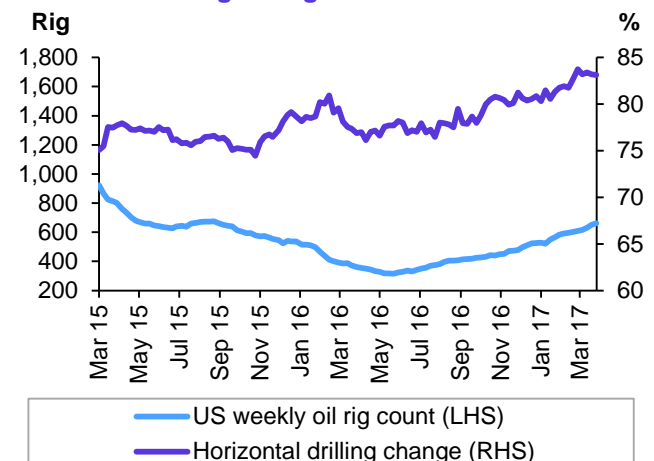
Overall, the number of oil rigs has risen by 346 from its lowest point last year, the week ending 27 May 2016 when it was at 316.

**Graph 5 - 12: US weekly oil rig count vs. Crude oil production**



Sources: Baker Hughes and US Energy Information Administration.

**Graph 5 - 13: US weekly oil rig count vs. Horizontal drilling change**



Source: Baker Hughes.



Table 5 - 5: US rotary rig count on 31 March 2017

		31 Mar 17	Month ago	Year ago	Change		
					M-o-m	Y-o-y	Y-o-y, %
Oil and gas split	Oil	662	609	362	53	300	83%
	Gas	160	146	88	14	72	82%
Location	Onshore	802	738	424	64	378	89%
	Offshore	22	18	26	4	-4	-15%
Basin	Williston	42	38	29	4	13	45%
	Eagle Ford	66	64	39	2	27	69%
	Permian	319	308	143	11	176	123%
Drilling trajectory	Directional	70	61	49	9	21	43%
	Horizontal	685	633	346	52	339	98%
	Vertical	69	62	55	7	14	25%
US total rig count		824	756	450	68	374	83%

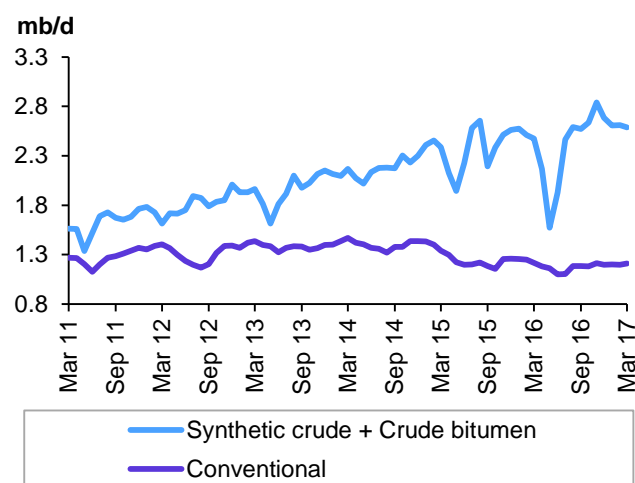
Sources: Baker Hughes and OPEC Secretariat.

## Canada

Canada's oil supply in 2016 is estimated at 4.50 mb/d, a growth of 80 tb/d. However, this growth has been revised down by 12 tb/d compared with the March MOMR. Preliminary national source data puts December Canadian oil output at 4.82 mb/d, a drop of 0.22 mb/d compared with the highest record of 5.04 mb/d in November. Oil sands output – bitumen and synthetic crude – decreased by 155 tb/d to settle at 2.72 mb/d, with conventional oil also declining to 1.20 mb/d, a drop of 15 tb/d. NGLs production in December also declined by 51 tb/d, to average 0.91 mb/d.

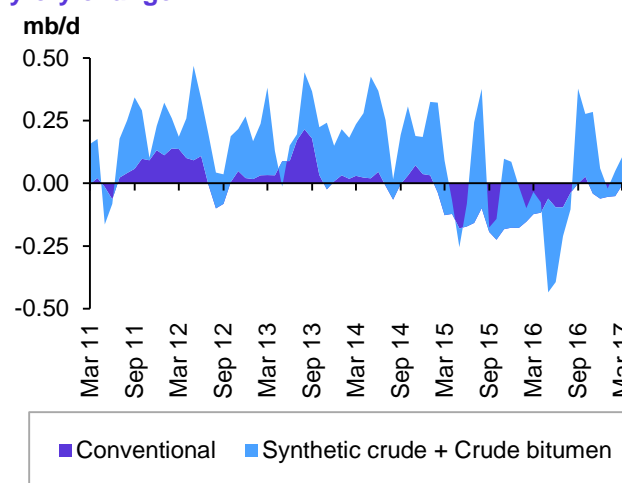
Preliminary data from secondary sources indicates that total oil production in 1Q17 was weaker than expected in last month's assessment. Therefore, the 2017 forecast has been revised down by 53 tb/d, compared to the March MOMR. This indicates growth of 0.21 mb/d, with overall average production at 4.71 mb/d in 2017.

Graph 5 - 14: Canada production by crude type



Source: OPEC Secretariat.

Graph 5 - 15: Canada production by crude type, y-o-y change



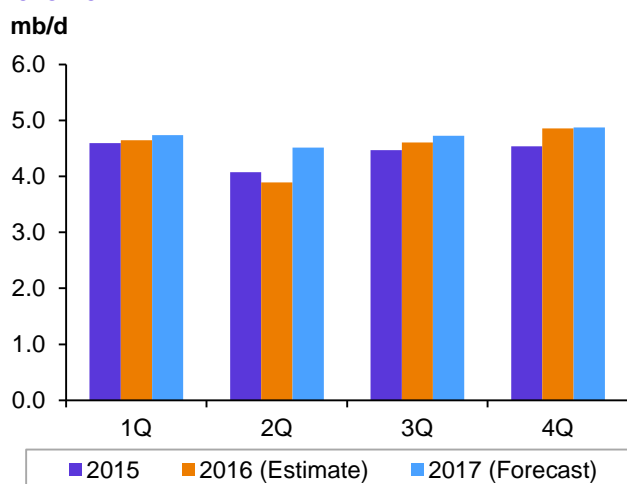
Source: OPEC Secretariat.

In 2017, it is expected that unconventional NGLs from tight plays increases by 20 tb/d to 0.20 mb/d while conventional NGLs will be declined by 25 tb/d to 0.66 mb/d. Production ramp ups in Bitumen projects are anticipated to come from Cold Lake, Surmont, Foster Creek, Kirby CNR, Christina Lake, Kearl and a small project from Hangingstone AOSC, which will increase bitumen output by about 150 tb/d to average 1.32 mb/d. It is also expected that around 120 tb/d will be added from synthetic crude oil projects, such as; the Suncor and Horizon oil sands projects, the Syncrude Mildred Lake oil Mining and the MacKay River Synthetic crude project. This will bring average syncrude crude oil production to 1.10 mb/d in 2017. By

increasing oil rig count in tight oil regions in Canada, it is expected that total liquids from shale and tight formations through the use of fracking will increase by 70 tb/d to average 0.50 mb/d in 2017. Approximately 0.30 mb/d of this should come from tight crude including condensate. As per 2016, conventional crude, condensate and NGLs are anticipated to decline by 127 tb/d to average 1.74 mb/d in 2017.

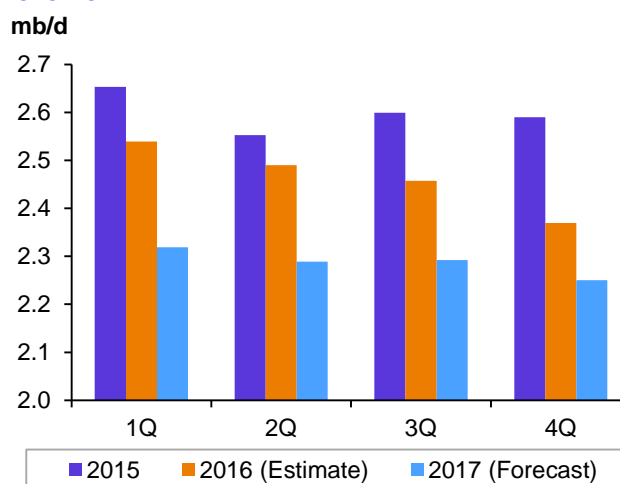
**Canada's overall rig count** reached its seasonal peak at 352 rigs in the week ending 10 February 2017. It then declined to 155 rigs by the end of March. On a monthly basis, the total rig count has fallen by 107 to average 233 rigs in March over February. In the same period, the number of oil rigs declined by 87 m-o-m to average 114 oil rigs, while the number of gas rigs declined by 20 to average 119, m-o-m. The number of active rigs in Alberta – the main state for oil sands production – decreased to 123 land rigs for the week ending 31 March 2017. In the same week, the rig count fell and reached an average of 28 rigs and three rigs in British Columbia and Saskatchewan, respectively.

**Graph 5 - 16: Canada quarterly oil supply, 2015-2017**



Source: OPEC Secretariat.

**Graph 5 - 17: Mexico quarterly oil supply, 2015-2017**



Source: OPEC Secretariat.

## Mexico

**Mexican** liquids production in 2016 declined by 0.13 mb/d to average 2.46 mb/d, unchanged from the previous *MOMR*. Oil output in January 2017 fell by 20 tb/d m-o-m, but this switched in February to an increase of 10 tb/d m-o-m – through NGLs output – to average 2.33 mb/d. However, this is 0.19 mb/d lower than the same month in 2016. Preliminary oil supply data for 1Q17 shows another 50 tb/d of decline, q-o-q. According to this annual decline rate trend, oil production will fall by 0.18 mb/d to average 2.29 mb/d in 2017. Mexico produced about 2.02 mb/d and 0.31 mb/d of NGLs in February.

It is expected that the declines in Mexico that are mostly coming from onshore mature fields that produce light to heavy crude oil and condensate, will be partially offset by the extra-heavy oil of the KU-Maloob-Zaap (KMZ) project in offshore Mexico. KMZ produced around 0.33 mb/d in 2016 and it is expected to grow by 40 tb/d in 2017.

## OECD Europe

Total **OECD Europe's oil supply** is estimated to fall by 50 tb/d to average 3.75 mb/d in 2017, following growth of 30 tb/d in 2016, with an expected decline mainly from Norway and the UK.

### Norway

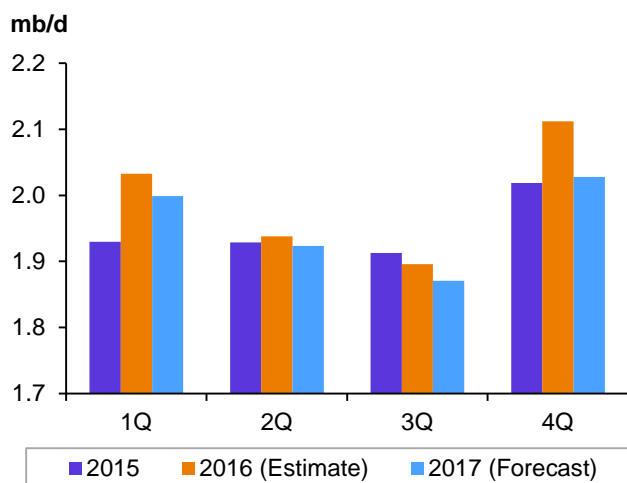
**Norway's** oil supply is estimated to have increased by 0.05 mb/d over the previous year to average 1.99 mb/d in 2016, unchanged from the previous *MOMR*. Preliminary production figures for 1Q17 indicate average production of about 2.0 mb/d, a decline of 0.11 mb/d over 4Q16. Preliminary production figures for February 2017 show an average daily production of 2.01 mb/d of oil, NGLs and condensate, which is a drop of 25 tb/d compared to January, following production outages in the Goliat field due to technical issues.

## World Oil Supply

Average daily liquids production in February was 1.62 mb/d for oil, 0.36 mb/d for NGLs and 0.03 mb/d of condensate.

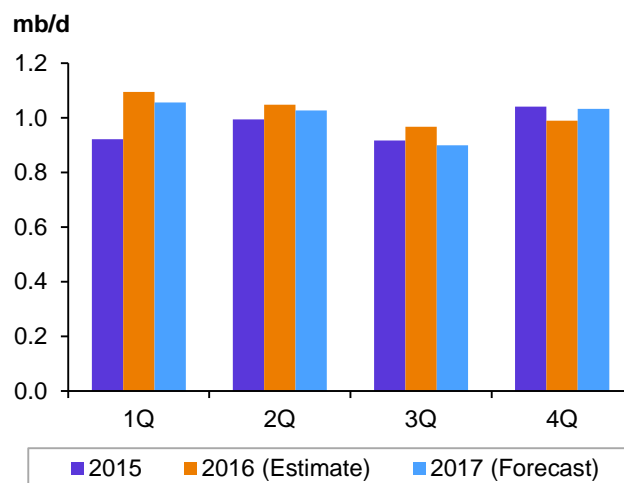
Oil production is about 0.4% below February 2016 oil production and about 0.8% above the Norwegian Petroleum Directorate - NPD's prognosis for February 2017. Overall, oil production in 2017 is about 0.5% above the prognosis so far. Final production figures for January 2017 show average daily production of about 1.623 million barrels of oil, and 0.413 million barrels of NGLs and condensate. In 2017, it is estimated that Norway's oil supply will see a contraction of 40 tb/d y-o-y, due to an expected 11% (NPD) drop in oil and gas investments, steeper annual declines and more maintenance. Therefore, absolute annual supply is expected to decline to 1.96 mb/d.

**Graph 5 - 18: Norway quarterly oil supply, 2015-2017**



Source: OPEC Secretariat.

**Graph 5 - 19: UK quarterly oil supply, 2015-2017**



Source: OPEC Secretariat.

## UK

The **UK's** oil production is expected to decline by 20 tb/d to average 1.00 mb/d in 2017, following growth of 60 tb/d in 2016. In 2017, it is expected that condensate production will increase by 13 tb/d through the ramp-up of North Sea production in Elgin/Franklin, Laggan-Tormore, Shearwater, Erskine and Britannia, while regular (API gravity>23°) crude oil production will add about 17 tb/d from oil fields such as Quad 204 WoS and Solan. It is also expected that production of extra heavy oil from the Kraken offshore field will add around 10 tb/d. All this anticipated growth in 2017, will likely be offset by production declines in other fields. Oil production following in January increased by 10 tb/d m-o-m, and by a further 30 tb/d in February to 1.10 mb/d following an easing of maintenance at the Buzzard field, as well as at the Elgin-Franklin.

## OECD Asia Pacific

Total oil production in the OECD Asia Pacific declined by 30 tb/d in 2016 to average 0.43 mb/d, mainly in Australia. Australian oil output in 2016 dropped to 0.35 mb/d and production in 4Q16 was lower by 30 tb/d q-o-q. Moreover, it is expected that output will decline by around 30 tb/d for the second consecutive quarter to 0.31 mb/d in 1Q17, following continuation of drops in January and February same as December over November 2016. Crude oil production including condensate dropped in January by 50 tb/d y-o-y to average 0.26 mb/d, the lowest on record. Australian oil production is expected to fall by 10 tb/d to average 0.34 mb/d in 2017, and the region overall, is estimated to decline by 20 tb/d due to expected minor declines of 10 tb/d in Other Asia Pacific countries, mainly New Zealand.

## Developing Countries

Total oil production from the group of **developing countries (DCs)** is estimated to decline by 100 tb/d y-o-y to average 12.21 mb/d in 2016, revised down by 22 tb/d compared with the previous assessment.

In 2017, DC's supply is forecast to grow by 100 tb/d to average 12.31 mb/d, revised down by 21 tb/d from last month's *MOMR* assessment. The key region for growth is expected to be Latin America (0.15 mb/d) – mainly from Brazil – to average 5.25 mb/d and, to a lesser degree, Africa (50 tb/d) – mainly from the Congo and Ghana – to stand at 2.16 mb/d. Other Asia's oil supply is anticipated to see a decline of 50 tb/d to average 3.68 mb/d, mainly from Indonesia. There is also an expected decline of 50 tb/d for the Middle East, with output falling to 1.23 mb/d.

## Other Asia

**Other Asia's** oil production is estimated to increase by 20 tb/d in 2016 to average 3.72 mb/d, mainly from Indonesia, unchanged from the previous *MOMR* assessment. In Malaysia, the second offshore Shell project started up in December 2016. The first was Gumusat-Kakap in 2014. Oil production began from the Malika tension-leg platform (TLP) located in Deepwater Sabah, Malaysia, with a peak capacity of 60 tb/d. Oil production from this region is expected to decline by 50 tb/d in 2017 to average 3.68 mb/d, due to low performance in mature Indonesian oil fields. Apart from, Indonesia, Malaysia, Thailand and Vietnam, as well as other countries in this region will likely see minor output growth or remain steady.

## Latin America

Oil supply from Latin America is projected to increase by 0.15 mb/d after a downward revision of 32 tb/d this month, to average 5.25 mb/d in 2017. Oil production declined in the region by 100 tb/d in 2016. The expected growth in Brazil is estimated to offset the declines in other countries.

## Brazil

Brazil's liquids supply is estimated to average 3.14 mb/d in 2016, an increase of 0.06 mb/d over the previous year. Crude oil output announced by the national source indicated a decline of about 40 tb/d m-o-m in January, to average 2.69 mb/d. Preliminary crude oil production based on Petrobras trend also shows a decrease of 30 tb/d m-o-m in February. Therefore, the 2017 oil production forecast for Brazil has been revised down by 56 tb/d. It is expected to be 3.35 mb/d, with growth of 0.21 mb/d, y-o-y.

According to Petrobras, the company's Brazilian crude oil production in January was 2.23 mb/d, 3% lower than in December 2016. This was mainly due to the scheduled stoppages of platform P-40, located in the Marlim Sul field, and to maintenance in one of the producing wells in FPSO Cidade de Anchieta, located in Parque das Baleias, both in the Campos Basin. In February, production declined by 1% m-o-m, to average 2.20 mb/d. This was mainly due to the scheduled stoppage of FPSO Cidade de Paraty, located in Lula Nordeste field, in the pre-salt Santos Basin, and to the ending of the test phase of the Anticipated Production System (SPA), which operated in Búzios field under the Transfer of Rights Agreement. The SPA objective was to gather information about the behaviour of this field's reservoirs.

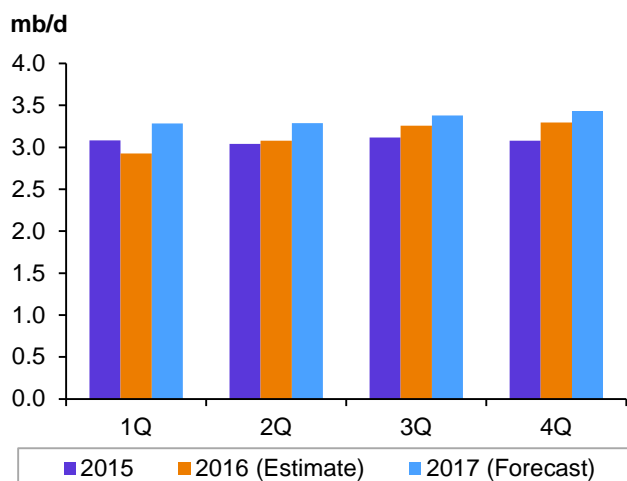
**Pre-salt production in Brazil has reached new daily and monthly records.** In January, oil production operated by Petrobras – both wholly-owned and partner shares – at the pre-salt layer achieved two new records, namely, the 1.28 mb/d average monthly production record and the 1.34 mb/d daily production record achieved on 4 January. It is also worth noting that oil and natural gas production operated by Petrobras reached a new record of 1.59 mboe/d.

These results are mainly due to production increases in the new wells interconnected to the FPSOs in the Santos Basin: Cidade de Caraguatuba (Lapa field); Cidade de Saquarema, Cidade de Mangaratiba, and Cidade de Itaguaí (Lula field); and Cidade de São Paulo (Sapinhoá field). Another highlight was the higher operating performance at platform P-58, located in Parque das Baleias, in the Campos Basin.

In February, oil and natural gas production operated by Petrobras (fully owned and through third parties) in the pre-salt layer was 1.53 mboe/d. This volume represents 41% growth compared to February 2016

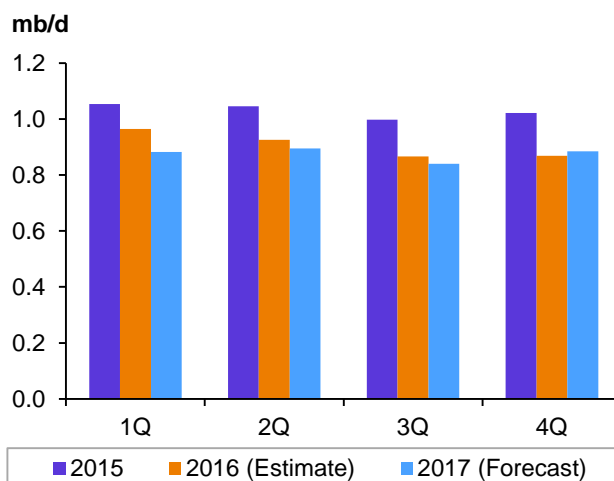
production. Compared to January 2017, however, this volume was a 3% reduction. This was due to the scheduled stoppage of FPSO Cidade de Paraty, located in the Lula Nordeste field, in the pre-salt Santos Basin, and to the ending of the test phase of the SPA, in the Búzios field.

**Graph 5 - 20: Brazil quarterly oil supply, 2015-2017**



Source: OPEC Secretariat.

**Graph 5 - 21: Colombia quarterly oil supply, 2015-2017**



Source: OPEC Secretariat.

## Colombia

In Colombia, average crude oil production in 2H16 was more or less steady at 0.87 mb/d, 0.14 mb/d less than the same period in 2015 and 80 tb/d less than 1H16. It is estimated that annual production declined by 0.12 mb/d to average 0.91 mb/d in 2016. The main reason for this high decline rate was reduced investment due to lower oil prices in 2016. However, Ecopetrol – the state-owned oil company, and main operator in the country – plans to increase investment in 2017.

Oil production from big green fields in Colombia such as Castilla, Chichimene, Castilla Norte and Quifa, which are producing extra heavy oil, are mostly in the final stage of their ramp-ups or in plateau the stage. In 2016, the output of extra heavy Colombian oil was around 0.47 mb/d, or about 52% of Colombia production. This represents a y-o-y decline of about 60 tb/d in extra heavy oil output in 2016, due to lower development activities and spending. Ecopetrol will focus on these oil fields, as well as other fields producing heavy oil that have good potential and performance such as Rubiales and Tigana. Budget guidance from the country's leading E&Ps imply a near doubling of spending y-o-y. Activity levels are increasing, with the rig count hitting 19 at the end of 2016, up from a low of 2 in April 2016. Therefore, Colombia's 2017 production forecast has been revised up by 23 tb/d from last month's *MOMR*, leading to a contraction of 30 tb/d y-o-y and an average annual output of 0.88 mb/d.

## Middle East

The main **non-OPEC oil producers in the Middle East** – Oman, Bahrain, Syria and Yemen – are estimated to have produced 1.28 mb/d in 2016, unchanged from the last *MOMR*. Preliminary data analysis indicates that growth of 20 tb/d in Oman has been offset by output declines in Yemen. Oil output in Bahrain and Syria was steady. Hence, oil production in the non-OPEC Middle East shows minor growth of 10 tb/d in 2016, but this is anticipated to flip to a contraction of 50 tb/d in 2017, to average 1.23 mb/d. This comes mainly from an anticipated 40 tb/d decrease in Oman and 20 tb/d in Bahrain. Others are estimated to remain unchanged.

## Africa

In 2016, oil output in **Africa** is estimated to decline by 30 tb/d, to average 2.10 mb/d. Most African countries saw an oil production decline in 2016, which were partially offset by growth that came from project ramp ups in the Congo such as Benguela-Belize, Nene Marine, Litchendjili and the heavy oil of Moho Marine Nord. There was also some growth in 2016 from the TEN Complex in Ghana and 30 tb/d of heavy oil from the Baobab common project between Chad and Cote d'Ivoire.

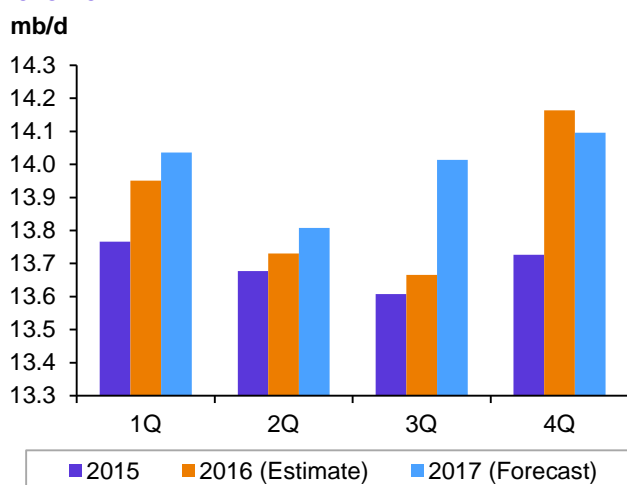
Oil production from the Moho Nord deepwater project with a capacity of 100 tboe/d began in Congo in mid-March 2017. The development involves the drilling of 34 wells tied back to a new tension leg platform, the first for international oil company, Total, in offshore Africa, and to the development of Likouf, a new floating production unit. Oil is processed on Likouf then exported by pipeline to the Djeno onshore terminal, also operated by Total. The crude type is a regular crude with API gravity >23°.

In 2017, oil production is estimated to grow in Congo, South Africa, Chad and Ghana. However, the third phase of Nene Marine project (Congo) has been delayed for one year as the project is still in the early concept study phase. Therefore, the expected growth in Congo has been revised down in this month by 30 tb/d. Declines are seen coming from Sudan, South Sudan and Equatorial Guinea. For the region, growth is expected at 50 tb/d, with average annual production at 2.16 mb/d.

## FSU, other regions

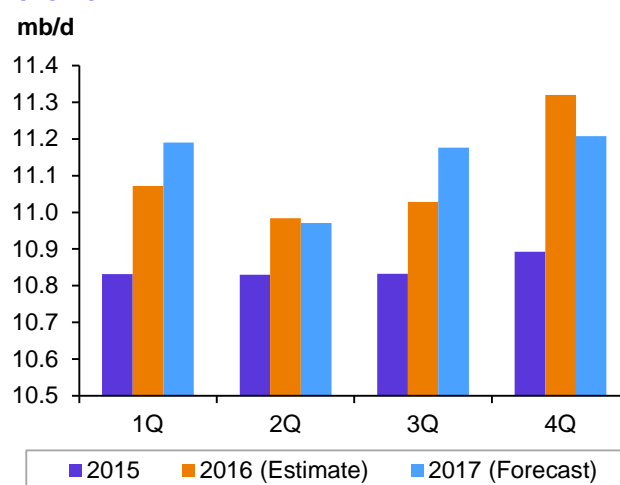
FSU's oil supply grew by 0.18 mb/d in 2016 to average 13.88 mb/d, unchanged from the March MOMR. In 2016, oil production in Russia increased, while declining in other countries of the region. The oil production forecast for 2017 was revised up this month by 10 tb/d to now show growth of 0.06 mb/d for a total of 13.94 mb/d. Upward revisions were seen in Russia's production due to the approval of production ramp ups from the three new projects started up last year including Filanovsky in the Caspian.

Graph 5 - 22: FSU quarterly oil supply, 2015-2017



Source: OPEC Secretariat.

Graph 5 - 23: Russia quarterly oil supply, 2015-2017



Source: OPEC Secretariat.

## Russia

Oil production in **Russia** was adjusted to 11.15 mb/d in March 2017, 60 tb/d lower than January and February. Crude oil output in March was reported at 10.327 mb/d, based on Russian Energy Ministry information, indicating 60 tb/d less production than in the first and second month of 2017. Given this, the average output in 1Q17 is estimated to be 11.19 mb/d, 130 tb/d lower than 4Q16, but 120 tb/d higher y-o-y. Russian oil supply in 2016 grew by 0.25 mb/d y-o-y, to an annual record of 11.10 mb/d. According to the secondary sources regarding approval for the production's ramp ups from three new projects which started up in 4Q16 including offshore field of Filanovsky in the 2H17 - adding another 60 tb/d - led to change our last forecast of 20 tb/d contraction of this year to a growth of average 40 tb/d in 2017.

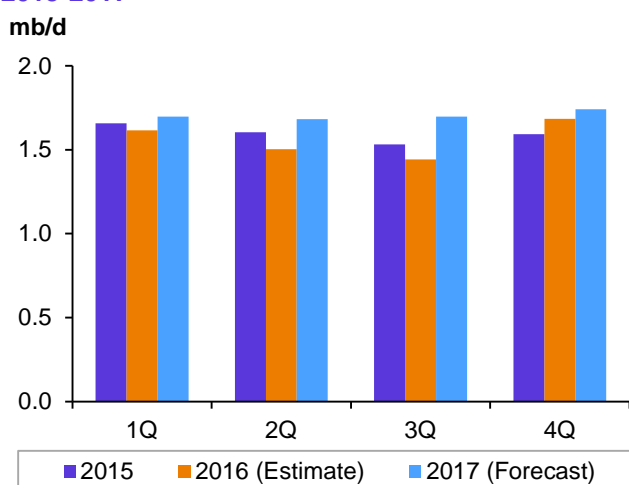
Most Russian producers have reduced production m-o-m since January 2017. According to secondary sources, Rosneft, Gazprom Neft, Tatneft and Bashneft increased their production during 1Q17. Based on the Russian Energy Ministry's report, average production in March shows 130 tb/d less production than the October level.

## Caspian

**Azerbaijan's** oil supply contraction forecast for 2017 remains unchanged at 70 tb/d to average 0.78 mb/d, while oil production in 2016 declined by only 10 tb/d to average 0.85 mb/d. Azeri oil output in January, February and March reported by secondary sources was at 0.79 mb/d, 0.78 mb/d and 0.80 mb/d, respectively. The average oil output in 1Q17 at 0.79 mb/d, is lower than the October level.

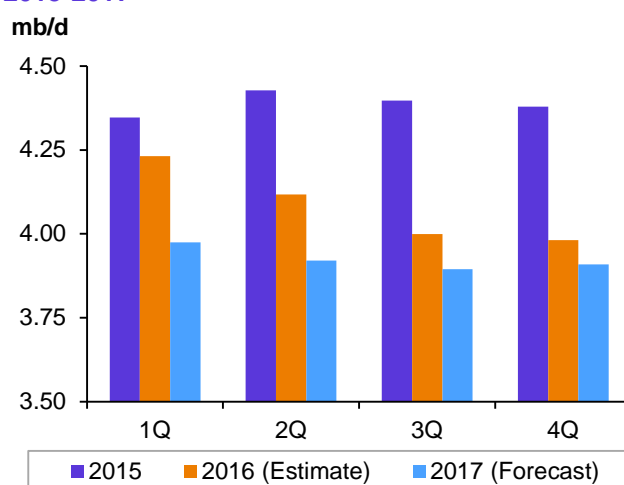
**Kazakhstan's** crude oil output in 1Q17 indicates m-o-m changes compared to the production level of 1.70 mb/d as a reference level for its voluntary oil production adjustment through the OPEC and non-OPEC Declaration of Cooperation. In January, production was 20 tb/d less than the reference level, in February it was 1.69 mb/d and in March output increased to 1.72 mb/d. Adjusting to keep the oil production at lower level in Kazakhstan during Kashagan's production ramp up which is under international agreement, is so difficult. However, the government hopes to reduce the oil production in other fields in the coming months when the weather becomes warmer. Kazakh average oil output in 1Q17 was 1.70 mb/d, an increase of 20 tb/d, q-o-q and 80 tb/d higher in the same quarter of the year earlier. Oil supply in 2016 decline by 40 tb/d y-o-y, averaged 1.56 mb/d.

**Graph 5 - 24: Kazakhstan quarterly oil supply, 2015-2017**



Source: OPEC Secretariat.

**Graph 5 - 25: China quarterly oil supply, 2015-2017**



Source: OPEC Secretariat.

## China

China's supply in 2016 is estimated to contract by 0.31 mb/d over the previous year to average 4.08 mb/d. Crude oil output in February 2017 averaged 3.93 mb/d, higher by 74 tb/d m-o-m. However, this was lower by more than 200 tb/d, y-o-y. In March, 69 wells in different oil fields were restarted by Sinopec, which had been shut-in to reduce losses. They are likely to reopen more wells at Shengli later this year. Crude production dropped by 12% from 2015 to 0.48 mb/d last year and it is expected it will decline by a further 2% to 0.47 mb/d in 2017. Sinopec has said that it needs a \$52/b crude price to break even at Shengli oil field.

The general oil price recovery in 2017 has encouraged China's main oil and gas producers to boost their upstream capital spending in 2017. For instance, Sinopec is anticipated to increase its upstream Capex to \$10.1 billion, which compares to approximately \$7.0 billion and \$7.9 billion in 2016 and 2015, respectively. CNOOC also plans to increase capex to \$8.7-\$10 billion from an estimated \$7.3 billion in 2016, while PetroChina, has not yet disclosed its full-year capex projections.

In the historical crude oil output produced by China's four main domestic companies in 2015, 2016, as well the latest production data for January and February 2017, indicates that crude oil production is likely to recover gradually due to higher operational activities and more spending in 2017. Therefore, it is expected that China's oil production, after this month's upward revision by 26 tb/d, will see a contraction of 160 tb/d in 2017, compared to a drop of 180 tb/d in last month's MOMR.

## OPEC NGLs and non-conventional oils

OPEC NGLs and non-conventional liquids are estimated to average 6.09 mb/d in 2016, representing growth of 0.14 mb/d over the previous year. In 2017, OPEC NGLs and non-conventional liquids production is projected to average 6.21 mb/d, representing an increase of 0.13 mb/d over the previous year, unchanged from last month's *MOMR*.

**Table 5 - 6: OPEC NGLs + non-conventional oils, 2014-2017\*, mb/d**

	2014	2015	Change 15/14	1Q16	2Q16	3Q16	4Q16	2016	Change 16/15	2017	Change 17/16
<b>Total OPEC</b>	<b>5.83</b>	<b>5.94</b>	0.11	6.05	6.08	6.11	6.11	<b>6.09</b>	0.14	<b>6.21</b>	0.13

Note: \* 2016 = Estimate and 2017 = Forecast.

Source: OPEC Secretariat.

## OPEC crude oil production

According to secondary sources, OPEC crude oil production in March decreased by 153 tb/d from the previous month to average 31.93 mb/d.

**Table 5 - 7: OPEC crude oil production based on secondary sources, tb/d**

	2015	2016	3Q16	4Q16	1Q17	Jan 17	Feb 17	Mar 17	Mar/Feb
<b>Algeria</b>	1,107	1,090	1,093	1,091	1,054	1,053	1,052	1,056	4.5
<b>Angola</b>	1,755	1,725	1,756	1,623	1,635	1,658	1,633	1,614	-18.7
<b>Ecuador</b>	543	546	547	542	528	530	529	526	-2.8
<b>Gabon</b>	225	220	221	211	199	203	196	198	1.9
<b>Iran, I.R.</b>	2,836	3,505	3,643	3,735	3,795	3,780	3,819	3,790	-28.7
<b>Iraq</b>	3,961	4,389	4,406	4,600	4,430	4,475	4,411	4,402	-8.5
<b>Kuwait</b>	2,764	2,853	2,880	2,874	2,712	2,722	2,712	2,702	-9.5
<b>Libya</b>	404	390	309	574	660	678	683	622	-60.8
<b>Nigeria</b>	1,862	1,578	1,412	1,572	1,550	1,533	1,575	1,545	-29.8
<b>Qatar</b>	663	656	651	642	609	620	595	612	16.6
<b>Saudi Arabia</b>	10,142	10,406	10,596	10,541	9,917	9,809	9,952	9,994	41.6
<b>UAE</b>	2,906	2,975	3,045	3,079	2,927	2,958	2,928	2,895	-32.7
<b>Venezuela</b>	2,375	2,159	2,103	2,057	1,993	2,007	1,998	1,972	-25.9
<b>Total OPEC</b>	<b>31,542</b>	<b>32,492</b>	<b>32,663</b>	<b>33,142</b>	<b>32,009</b>	<b>32,026</b>	<b>32,081</b>	<b>31,928</b>	<b>-152.7</b>

Note: Totals may not add up due to independent rounding.

Source: OPEC Secretariat.



Table 5 - 8: OPEC crude oil production based on *direct communication*, tb/d

	2015	2016	3Q16	4Q16	1Q17	Jan 17	Feb 17	Mar 17	Mar/Feb
Algeria	1,157	1,146	1,162	1,168	1,087	1,091	1,084	1,085	1.0
Angola	1,767	1,722	1,736	1,610	1,638	1,615	1,649	1,652	3.0
Ecuador	543	549	551	543	533	534	535	531	-4.5
Gabon	..	..	..	..	..	..	..	..	...
Iran, I.R.	3,152	3,651	3,653	3,993	3,894	3,920	3,870	3,891	21.0
Iraq	3,504	4,648	4,666	4,802	4,558	4,630	4,566	4,480	-86.0
Kuwait	2,859	2,954	2,969	2,915	2,705	2,710	2,705	2,700	-5.0
Libya	..	..	..	..	..	..	..	..	...
Nigeria	1,748	1,427	1,227	1,401	1,408	1,533	1,426	1,269	-156.9
Qatar	656	652	644	632	595	615	545	621	76.5
Saudi Arabia	10,193	10,460	10,651	10,602	9,882	9,748	10,011	9,900	-111.0
UAE	2,989	3,088	3,173	3,201	3,010	3,060	2,995	2,973	-22.0
Venezuela	2,654	2,373	2,326	2,265	2,244	2,250	2,248	2,235	-13.2
<b>Total OPEC</b>	..	..	..	..	..	..	..	..	..

Note: Totals may not add up due to independent rounding.

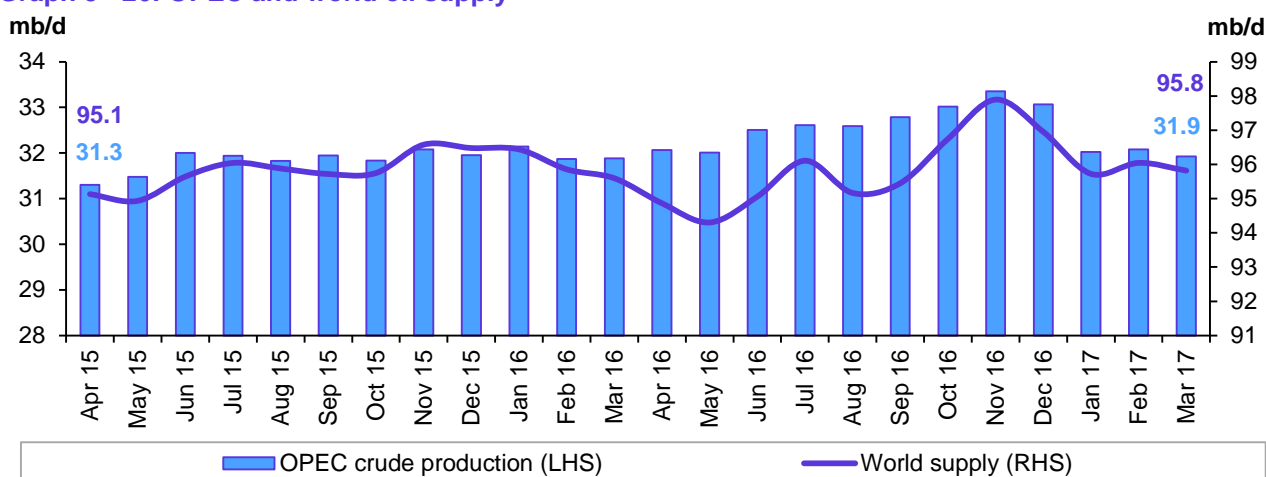
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Source: OPEC Secretariat.

## World oil supply

Preliminary data indicates that global oil supply decreased by 226 tb/d in March to average 95.82 mb/d, higher by 0.22 mb/d y-o-y. A decrease in non-OPEC supply, including OPEC NGLs, of 0.07 mb/d and from OPEC crude of 0.15 mb/d, further reduced the overall global oil output in March. The share of OPEC crude oil in total global production stood at 33.3% in March, a decrease of 0.08 pp from the month before. Estimates are based on preliminary data for non-OPEC supply, direct communication for OPEC NGLs and non-conventional liquids, and secondary sources for OPEC crude oil production.

Graph 5 - 26: OPEC and world oil supply

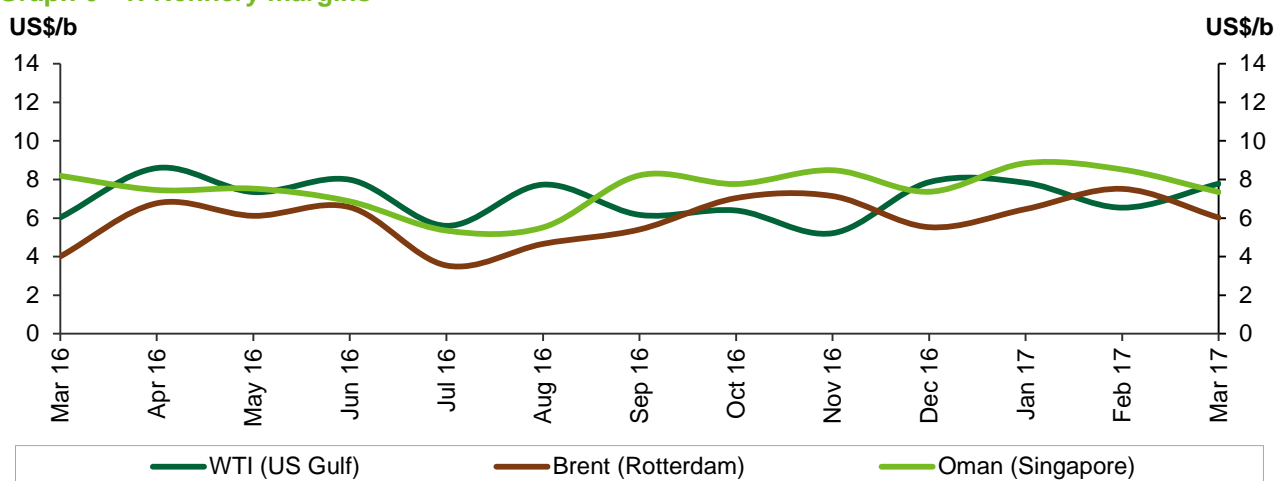


Source: OPEC Secretariat.

## Product Markets and Refinery Operations

Product markets in the Atlantic Basin exhibited mixed performance during March, as a lack of export opportunities for gasoline amid increasing inflows of middle distillates to the region impacted the European market. In the US, stronger domestic gasoline demand along with falling inventories ahead of the transition to summer-grade quality lent strong support to refinery margins. Meanwhile, in Asia, product markets weakened despite the onset of spring refinery maintenance season, as the market was impacted by a lack of arbitrage amid increasing inflows to the region.

Graph 6 - 1: Refinery margins



Sources: Argus Media and OPEC Secretariat.

Stronger domestic gasoline demand amid an upcoming switch to summer grades supported the gasoline market in March. This, along with lower imports from Europe and higher exports to Latin America, allowed the gasoline crack spread to witness a sharp recovery, thus boosting refinery margins despite weakness seen in other parts of the barrel. **US Gulf Coast** (USGC) refinery margins for WTI crude gained more than \$1/b compared to the previous month to average \$7.80/b in March.

Product markets in **Europe** weakened during March, impacted by the lack of arbitrage opportunities for gasoline across the Atlantic. Another bearish factor was slowing seasonal domestic demand, which pressured the middle distillates market amid increasing inflows from East of Suez.

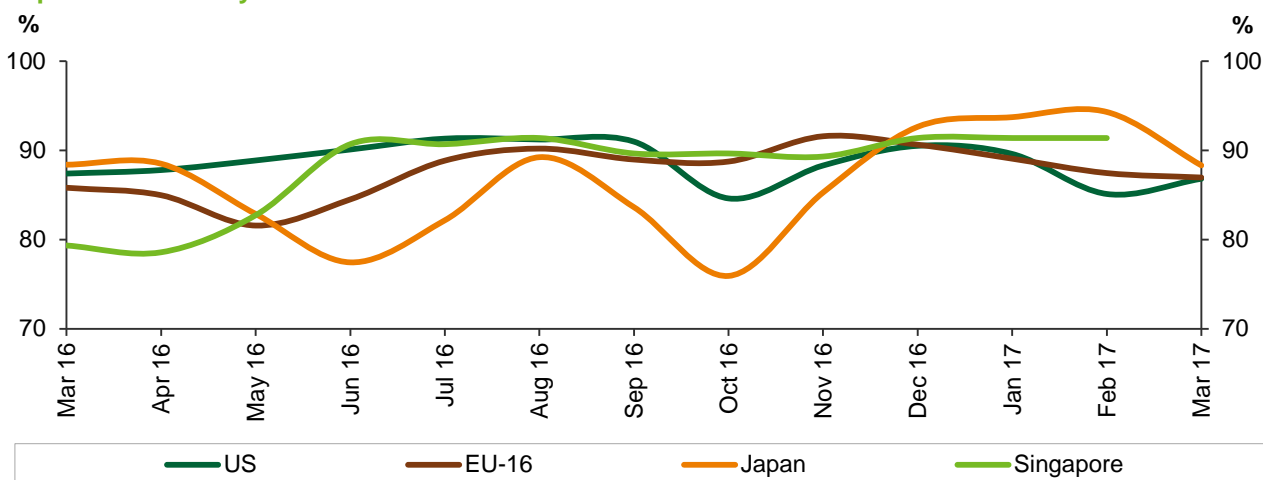
The refinery margin for Brent crude in NWE lost more than \$1/b over the previous month's level to average \$6.0/b in March.

**Asian** product markets weakened during March, as despite the onset of the regional maintenance season, increasing inflows amid a lack of export opportunities exerted pressure on the gasoline market. Meanwhile, limited East-to-West arbitrage caused an overhang of gasoil in Singapore, thus fuelling bearish sentiment, causing refinery margins in Singapore to lose more than \$1/b versus the previous month's level, to average around \$7.30/b during March.

## Refinery operations

The refinery utilisation rate in the **US** averaged around 87% during March, corresponding to 15.9 mb/d. This represented an increase of around 300 tb/d above the previous month and was around 100 tb/d lower than the same month a year ago. Refinery throughputs increased during March, as several refineries came back from maintenance, mainly on the USGC and the US West Coast (USWC).

**Graph 6 - 2: Refinery utilisation rates**



Sources: Argus Media and OPEC Secretariat.

**European** refinery runs averaged around 87% of capacity in March, corresponding to a throughput of 10.3 mb/d, a similar level to the previous month. Refinery throughputs continued to hold at a high level in Europe ahead of peak spring maintenance season, which is expected to put more than 1 mb/d of capacity off line in the coming month.

In **Asia**, refinery runs in India averaged around 5.0 mb/d during February, similar to the previous month's levels. Meanwhile, Chinese refinery throughputs averaged 11.2 mb/d during February. Refinery runs in Singapore averaged around 91% in February, similar to the previous month, while Japanese throughput averaged 88% of capacity in March, falling around 6 pp due to some refinery maintenance.

Asian refinery utilisation rates are expected to remain at high levels to satisfy expected firm regional demand, although runs could be impacted by peaking refinery maintenance, which could put more than 2.5 mb/d of capacity in the Asian region offline during April.

## US market

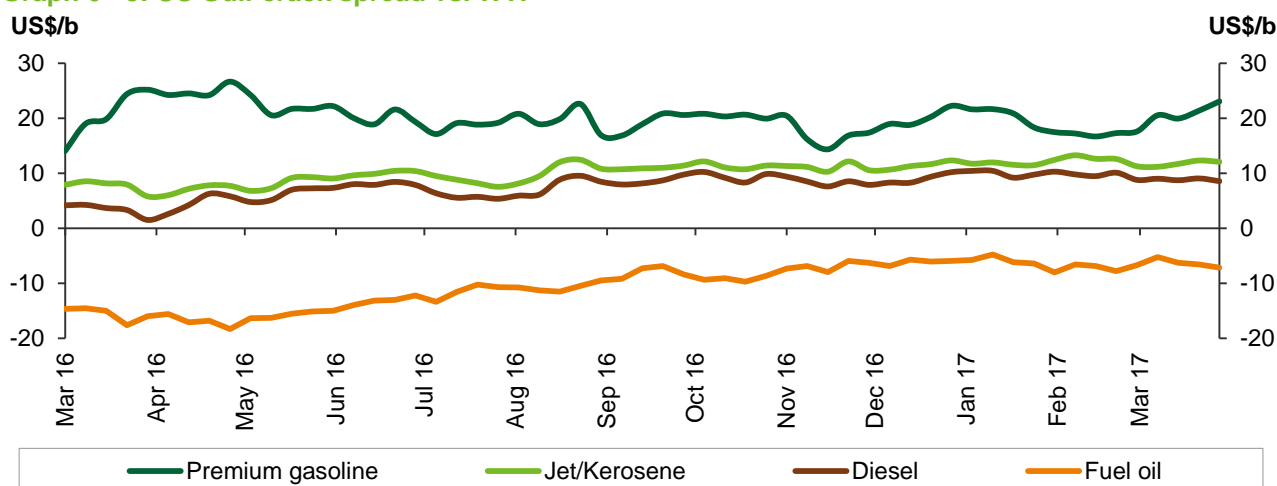
**US gasoline** demand stood at around 9.3 mb/d in March, which is approximately 620 tb/d higher than in February, albeit 90 tb/d lower than in the same month a year earlier.

Healthy domestic gasoline demand ahead of the upcoming switch from winter to summer grades, which takes place mid-April, has lent support to the gasoline market, which alongside lower imports from Europe and higher exports to Latin America, allowed the crack spread to witness a sharp recovery.

Strong buying volumes were reported from the US East Coast (USEC), which along with the tightening created by a transition from high- to low-Reid Vapour Pressure (RVP) quality and inventories falling by more than 15 mb since the end of February, fuelled bullish sentiment in the US gasoline market. This was further boosted by expectations of increasing demand ahead of the driving season.

The gasoline crack spread showed a sharp recovery of more than \$3/b compared with the previous month, to average around \$20/b in March.

Graph 6 - 3: US Gulf crack spread vs. WTI



Sources: Argus Media and OPEC Secretariat.

At the middle of the barrel, **gasoil** demand stood at around 4.2 mb/d in March, which is 220 tb/d higher than the previous month and around 240 tb/d higher than in the same month a year earlier.

The gasoil market continued to receive support from higher export volumes to Latin American countries, mainly Brazil and Chile, amid reported increasing demand from the agricultural sector, mainly in the mid-continent area, with the start of the spring planting season.

However, the diesel market was impacted by a slowdown in export volumes to Europe as economic arbitrage lessened, and was impacted by increasing freight costs, fuelling bearish sentiment to the market. This caused the crack spread to weaken despite a continued drop in US middle distillate inventories.

The USGC gasoil crack spread averaged around \$9/b in March, a drop of almost \$1/b compared with the previous month's level.

At the bottom of the barrel, the **fuel oil** market recovered the ground it lost the previous month as heavy maintenance season reduced the availability of bottom products.

In addition, the fuel oil market was supported by a tightening VGO environment, with several FCC units coming back from maintenance amid increasing margins, while volumes from Europe were also reported to have fallen during the month.

The USGC HSFO crack spread gained more than \$1/b to average minus \$6/b in March.

## European market

Product markets in Europe weakened during March due to slowing seasonal domestic demand amid a lack of gasoline export opportunities to the US. Meanwhile, warmer temperatures, coupled with increasing inflows from East of Suez, pressured the middle distillates market.

The **gasoline** market weakened in Europe, pressured by slowing domestic demand, as well as continued weakness seen in transatlantic arbitrage. The market was also impacted by an increase in freight costs in the medium-range sector.

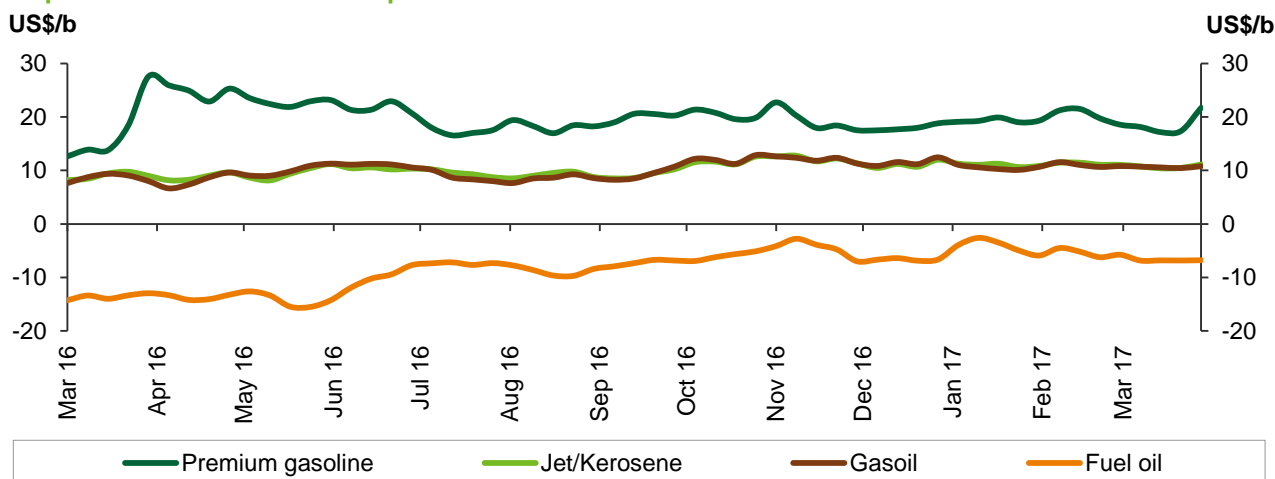
Another bearish factor has been plentiful supply, albeit temporarily, with main market players trying to sell off winter-grade volumes on distress, as the European gasoline market shifted to summer grade on 24 March.

The gasoline crack spread against Brent lost around \$2/b from the previous month's level to average around \$18/b during March. Further losses were avoided by continued firm export opportunities to the Middle East and West African markets.

## Product Markets and Refinery Operations

The **light distillate naphtha** crack continued to weaken, losing almost \$1/b in March as the market continued to be hit by typical seasonally lower demand and as falling LPG prices made naphtha less competitive as a petrochemical feedstock. In addition, the maintenance of several steam cracker units in Europe also took a toll, and arbitrage to Asia continued to fall.

**Graph 6 - 4: Rotterdam crack spread vs. Brent**



Sources: Argus Media and OPEC Secretariat.

The European **gasoil** market partially lost the ground it had recovered in February as warmer spring weather impacted heating oil demand, while the supply side exerted some pressure with increasing inflows reported from South Korea, Kuwait and Saudi Arabia.

However, it should be noted that the market was generally balanced, due to slowing economic arbitrage from the US and lower exports from the Baltic because the region's heavy maintenance season put out more than 700 tb/d of refinery capacity.

Another bullish factor for the gasoil market has been the increase, although expected, in spring season agricultural sector demand.

The gasoil crack spread against Brent crude at Rotterdam fell slightly by 50¢/b compared with the previous month's level to average around \$10.60/b in March. Losses were limited by firm diesel demand reported from the UK and France, amid export opportunities from West Africa.

At the bottom of the barrel, the **fuel oil** market continued to weaken in March, pressured by the supply side due to the higher inflows from the Baltic and given reduced arbitrage opportunities to Asia.

Another bearish factor impacting the market was the outage of some secondary units, which increased the availability of the bottom products. In addition, ARA fuel oil inventories continued to rise.

The NWE fuel oil crack lost more than \$1/b compared with the previous month to average around minus \$6.70/b in March.

## Asian market

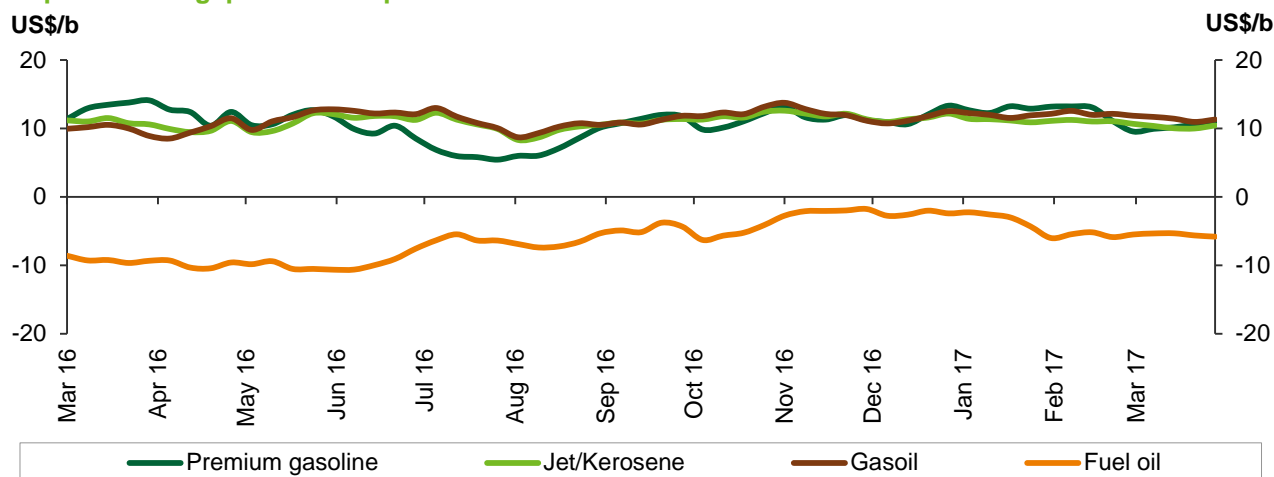
The Asian market weakened in March. Despite the onset of the regional maintenance season, refinery margins fell due to losses across the barrel caused by a lack of export opportunities amid increasing inflows to the region.

The Asian **gasoline** market continued to weaken during March due to supply pressures that continued to fuel bearish sentiment in the Asian market. Export increases were seen from Northeast Asia, mainly China, with gasoline exports hitting a record high of 320 tb/d in February. Exports from Japan were also on the rise, exerting further pressure on the gasoline market.

The gasoline crack spread against Oman crude in Singapore averaged around \$10/b in March, a loss of around \$2/b compared with the previous month's level. Further losses were avoided by expectations of a tightening market, given the upcoming maintenance season peak and stronger demand from India, with increasing vehicle sales growth reported in the country.

The **naphtha** market was supported by the firm petrochemical demand seen in Northeast Asia, mainly from Japan, Taiwan and South Korea. However, Singapore naphtha margins lost around \$2/b in March due to pressure coming from the supply side with expectations for increasing inflows to the region, as well as slower LPG prices pressuring the market.

**Graph 6 - 5: Singapore crack spread vs. Oman**



Sources: Argus Media and OPEC Secretariat.

At the middle of the barrel, the **gasoil** crack spread lost some ground, as despite strong regional demand, with increasing requirements seen in Malaysia and Pakistan, ample supply weighed on the market. The reduced economics seen in East-to-West ULSD arbitrage led to increasing inflows to Singapore from South Korea, India and the Middle East. This exerted pressure on the market and contributed to a rise in the Singapore gas oil contango structure.

The gasoil crack spread in Singapore against Oman averaged around \$11.40/b in March, losing almost \$1/b compared with the previous month's level. It is expected that some support will return in the coming weeks given the refinery maintenance peak and stronger seasonal regional demand.

The Asian **fuel oil** market remained relatively balanced during March as the onset of refinery maintenance eased the oversupply environment witnessed the previous month. Some recovery in bunker demand was reported. However, this was more than offset by expected increasing inflows to the region, mainly cargoes scheduled to arrive to Singapore from India, Thailand and the Middle East.

The fuel oil crack spread in Singapore against Oman averaged about minus \$5.50/b in March, a similar level to the previous month. Further losses were avoided by stronger requirements reported from Pakistan and Taiwan.

## Product Markets and Refinery Operations

**Table 6 - 1: Refinery operations in selected OECD countries**

	Refinery throughput, mb/d				Refinery utilization, %			
	Jan 17	Feb 17	Mar 17	Change Mar/Feb	Jan 17	Feb 17	Mar 17	Change Mar/Feb
<b>US</b>	16.39	15.57	15.88	0.31	89.59	85.11	86.82	1.71
<b>Euro-16</b>	10.55	10.36	10.30	-0.06	89.06	87.45	86.95	-0.50
<b>France</b>	1.11	1.03	0.99	-0.04	88.70	82.53	79.25	-3.29
<b>Germany</b>	1.88	1.80	1.75	-0.04	86.11	82.22	80.16	-2.06
<b>Italy</b>	1.39	1.41	1.33	-0.08	67.89	68.82	65.00	-3.81
<b>UK</b>	1.06	1.07	1.07	0.00	81.41	82.10	82.26	0.15
<b>Japan</b>	3.55	3.57	3.35	-0.23	93.72	94.30	88.31	-5.99

Sources: Argus Media, EIA, Euroilstock, IEA, METI, OPEC Secretariat and Petroleum Association of Japan.

**Table 6 - 2: Refinery crude throughput, mb/d**

	2014	2015	2016	1Q16	2Q16	3Q16	4Q16	1Q17 **
<b>Total OECD</b>	<b>36.95</b>	<b>38.00</b>	<b>37.97</b>	<b>37.76</b>	<b>37.20</b>	<b>38.75</b>	<b>38.25</b>	<b>38.14</b>
<b>OECD America*</b>	<b>19.00</b>	<b>19.19</b>	<b>19.21</b>	<b>19.05</b>	<b>19.24</b>	<b>19.65</b>	<b>19.25</b>	<b>19.36</b>
of which US	15.82	16.11	16.24	15.94	16.27	16.68	16.07	16.00
<b>OECD Europe</b>	<b>11.43</b>	<b>12.11</b>	<b>11.91</b>	<b>11.54</b>	<b>11.18</b>	<b>12.19</b>	<b>12.01</b>	<b>11.77</b>
of which:								
France	1.12	1.17	1.14	1.13	0.94	1.19	1.25	1.04
Germany	1.86	1.91	1.90	1.87	1.81	1.94	1.90	1.81
Italy	1.20	1.35	1.30	1.22	1.28	1.36	1.33	1.37
UK	1.14	1.14	1.09	1.01	1.07	1.12	1.09	1.07
<b>OECD Asia Pacific</b>	<b>6.51</b>	<b>6.70</b>	<b>6.85</b>	<b>7.17</b>	<b>6.79</b>	<b>6.91</b>	<b>6.98</b>	<b>7.00</b>
of which Japan	3.13	3.14	3.15	3.46	3.18	3.23	3.25	3.26
<b>Non-OECD</b>	<b>41.68</b>	<b>42.70</b>	<b>43.35</b>	<b>43.01</b>	<b>42.74</b>	<b>43.19</b>	<b>42.76</b>	<b>42.84</b>
of which:								
China	10.16	11.00	11.55	11.32	11.66	11.53	11.63	11.65
Middle East	6.90	7.27	7.56	7.42	7.19	7.43	7.36	7.42
Russia	5.92	5.79	5.71	5.61	5.49	5.83	5.71	5.71
Latin America	5.07	5.00	4.55	4.72	4.43	4.48	4.57	4.57
India	4.48	4.56	4.93	5.02	4.86	4.88	4.98	5.07
Africa	2.30	2.16	2.05	2.17	2.04	2.04	2.00	1.94
<b>Total world</b>	<b>78.62</b>	<b>80.70</b>	<b>81.33</b>	<b>80.77</b>	<b>79.95</b>	<b>81.94</b>	<b>81.00</b>	<b>80.98</b>

Note: \* Data includes Mexico and Chile.

\*\* OPEC Secretariat's estimate.

Totals may not add up due to independent rounding.

Source: OPEC Secretariat.

Table 6 - 3: Refined product prices, US\$/b

	Feb 17	Mar 17	Change Mar/Feb	Year-to-date 2016	2017
<b>US Gulf (Cargoes FOB):</b>					
Naphtha*	57.71	52.42	-5.29	37.36	55.68
Premium gasoline (unleaded 93)	70.63	70.29	-0.34	52.16	71.23
Regular gasoline (unleaded 87)	65.56	64.44	-1.12	44.91	65.68
Jet/Kerosene	66.10	61.28	-4.82	42.03	63.87
Gasoil (0.2% S)	63.20	58.37	-4.83	38.37	61.36
Fuel oil (3.0% S)	46.86	43.34	-3.52	21.17	45.65
<b>Rotterdam (Barges FoB):</b>					
Naphtha	54.82	50.70	-4.12	35.33	53.53
Premium gasoline (unleaded 98)	75.66	70.06	-5.60	52.57	73.18
Jet/Kerosene	66.35	62.29	-4.06	42.71	64.75
Gasoil/Diesel (10 ppm)	66.13	62.21	-3.92	41.88	64.46
Fuel oil (1.0% S)	49.73	44.86	-4.87	22.04	48.40
Fuel oil (3.5% S)	43.13	39.94	-3.19	18.10	42.03
<b>Mediterranean (Cargoes FOB):</b>					
Naphtha	54.46	49.55	-4.91	34.06	52.74
Premium gasoline**	68.26	62.07	-6.19	45.89	65.76
Jet/Kerosene	65.12	58.85	-6.27	41.04	62.59
Diesel	67.52	61.98	-5.54	43.21	65.35
Fuel oil (1.0% S)	50.41	46.24	-4.17	22.79	49.61
Fuel oil (3.5% S)	45.75	42.34	-3.41	20.98	44.62
<b>Singapore (Cargoes FOB):</b>					
Naphtha	56.58	50.82	-5.76	36.65	54.37
Premium gasoline (unleaded 95)	69.90	64.28	-5.62	49.11	67.88
Regular gasoline (unleaded 92)	67.54	61.94	-5.60	45.97	65.42
Jet/Kerosene	66.26	61.93	-4.33	42.10	64.45
Gasoil/Diesel (50 ppm)	67.34	63.09	-4.25	41.26	65.44
Fuel oil (180 cst 2.0% S)	54.59	50.74	-3.85	26.96	53.46
Fuel oil (380 cst 3.5% S)	49.07	45.64	-3.43	24.37	48.39

Note: \* Barges.

\*\* Cost, insurance and freight (CIF).

Sources: Argus Media and OPEC Secretariat.



## Tanker Market

In March, the tanker market showed mixed patterns with VLCCs seeing a decline in spot freight rates on its various trading routes, with spot freight rates remaining under pressure from the supply of high vessels in this sector, while all other classes showed improved sentiment from the previous month. Average freight rates in March increased for Suezmax and Aframax classes by 14% and 4% from February, respectively. The higher rates were supported by several factors, but most importantly transit delays in the Turkish Straits, discharge delays in the East, and the occasional tightening in tonnage supply in some areas.

Similarly, the clean market showed higher monthly freight rates on most reported routes, reflecting higher rates from those registered a year ago on both eastern and western directions of Suez.

### Spot fixtures

According to preliminary data, **global spot fixtures** increased by 5.7% in March compared to the previous month, to average 16.87 mb/d. Higher **spot fixtures** were registered from the Middle East-to-West destinations, which increased by 0.08 mb in March from February, to average 2.65 mb/d. Spot fixtures from outside the Middle East registered a gain of 0.32 mb/d, or 9% in March, compared with one month before.

**Table 7 - 1: Spot fixtures, mb/d**

	<u>Jan 17</u>	<u>Feb 17</u>	<u>Mar 17</u>	<u>Change</u> <u>Mar 17/Feb 17</u>
<b>All areas</b>	<b>16.20</b>	<b>15.96</b>	<b>16.87</b>	<b>0.91</b>
OPEC	11.87	11.46	11.68	0.22
Middle East/East	5.56	5.51	5.33	-0.18
Middle East/West	2.71	2.57	2.65	0.08
Outside Middle East	3.60	3.38	3.69	0.32

Sources: Oil Movements and OPEC Secretariat.

### Sailings and arrivals

**OPEC sailings** increased by 0.02 mb/d, or 0.1% in March, to stand at 23.97 mb/d. This came along with an increase in **Middle East sailings**. In March, Middle East sailings gained 0.09 mb/d, or 0.5% from the previous month, to stand at 17.33 mb/d.

**Table 7 - 2: Tanker sailings and arrivals, mb/d**

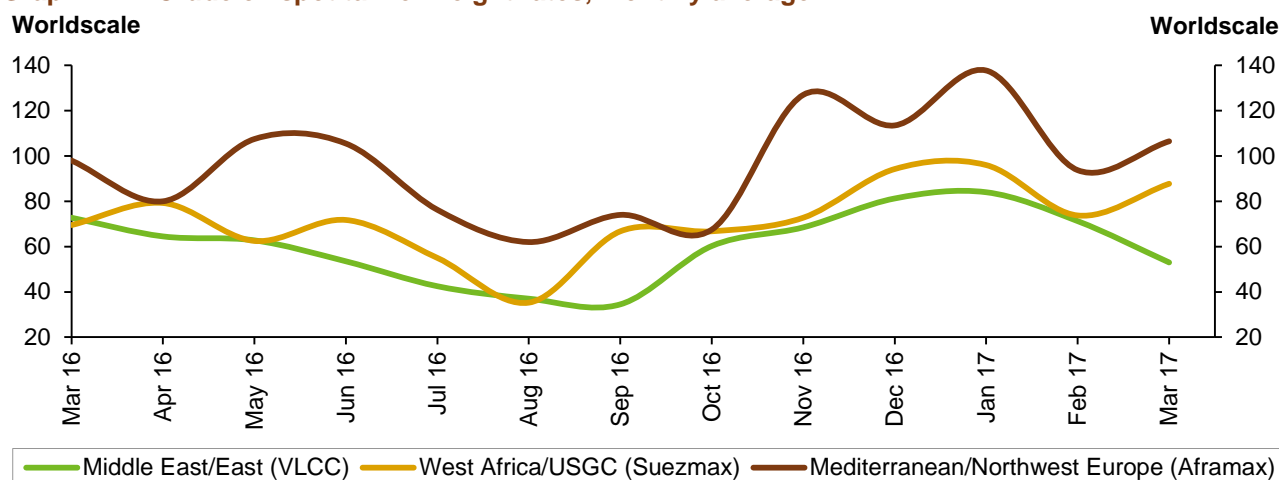
	<u>Jan 17</u>	<u>Feb 17</u>	<u>Mar 17</u>	<u>Change</u> <u>Mar 17/Feb 17</u>
<b>Sailings</b>				
OPEC	24.28	23.95	23.97	0.02
Middle East	17.48	17.24	17.33	0.09
<b>Arrivals</b>				
North America	10.17	9.92	9.78	-0.14
Europe	12.23	12.13	12.54	0.41
Far East	8.44	8.64	8.71	0.07
West Asia	4.90	4.70	4.63	-0.07

Sources: Oil Movements and OPEC Secretariat.

March **Crude oil arrivals** increased in European and Far East ports compared to the previous month, expanding by 0.41 mb/d, or 3.4%, and 0.07 mb/d, or 0.8%, respectively, while arrivals to North America and West Asia declined by 1.4 % and 1.5%, respectively.

## Dirty tanker freight rates

Graph 7 - 1: Crude oil spot tanker freight rates, monthly average



Sources: Argus and Platts.

## VLCC

The VLCC market saw steady activities at the beginning of March. However, this was not enough to support **VLCC spot freight rates**, which remained under pressure, mostly edging down, as the tonnage list kept growing. Spot freight rates for tankers operating on different routes showed a decline, with the exception of some replacement fixtures. Despite April's requirements into the market, March rates remained on a declining trend as the ample tonnage supply subdued any chance for freight rates gains. Vessel earnings hit multi-month lows. In March, VLCC spot freight rates for tankers operating on the Middle East-to-West route showed the highest drop among all routes, down by 26% from the previous month to stand at WS28 points. Freight rates registered for tankers on Middle East-to-East routes declined by 26% m-o-m, while VLCC spot freight rates for tankers trading on West Africa-to-East routes fell 17% m-o-m to stand at WS59 points in March.

Table 7 - 3: Dirty VLCC spot tanker freight rates, Worldscale

	Size 1,000 DWT	Jan 17	Feb 17	Mar 17	Change Mar 17/Feb 17
Middle East/East	230-280	84	71	53	-18
Middle East/West	270-285	53	37	28	-10
West Africa/East	260	84	71	59	-12

Sources: Argus Media and OPEC Secretariat.

## Suezmax

Suezmax closed the month exhibiting general freight rate improvements compared to one month before. **Suezmax average freight rates** went up by WS10 points, or 13%, to stand at WS79 points in March. The average gains in rates were registered despite limited activities at the beginning of the month. Chartering conditions improved when April loading requirements were seen in the market and combined with a flurry of inquiries, Suezmax rates strengthened with improved sentiment on various routes. In the Mediterranean, the Suezmax market was active, which supported rates in the Mediterranean and the Black Sea, the latter also witnessing a steady flow of cargoes. Delays in the Turkish Straits due to foggy weather also supported higher rates.

In **West Africa**, a tightening supply of vessels supported freight rates. On average, spot freight rates for tankers operating on the West Africa-to-US route increased by WS14 points in March to average WS88 points. On the NWE-to-US route, Suezmax spot freight rates increased by 7% from February, to average WS69 points. Suezmax freight rates were corrected down at the end of month, with rates adjusted when charterers slowed market activities in order to arrest the increase in freight rates.

**Table 7 - 4: Dirty Suezmax spot tanker freight rates, Worldscale**

	Size 1,000 DWT	Jan 17	Feb 17	Mar 17	Change Mar 17/Feb 17
West Africa/US Gulf Coast	130-135	96	74	88	14
Northwest Europe/US Gulf Coast	130-135	81	65	69	5

Sources: Argus Media and OPEC Secretariat.

## Aframax

**Aframax** spot freight rates turned positive in March, showing gains from the previous month, albeit at lower levels than those registered by Suezmax. On average, Aframax freight rates increased by 6% to stand at WS113 points in March.

Aframax freight rates in the **North Sea** and the **Baltics** showed improvement, supported by high levels of inquiries during the month and despite a surplus availability of ice class ships. Aframax spot freight rates in the Mediterranean were also supported by port delays and long transit times at the Turkish Straits. Tankers operating on the Mediterranean-to-Mediterranean and Mediterranean-to-NWE routes registered higher spot freight rates of 10% and 14% during March, to stand at WS113 points and WS107 points, respectively. Spot freight rates for tankers operating on the Indonesia-to-East route showed an increase of 16% from the previous month to average WS121 points.

In the **Caribbean**, rates were affected by bad weather conditions that reduced lighterage activities, in combination with a generally slowing market and limited delays in the US Gulf Coast. Aframax spot freight rates in the region for tankers operating on the Caribbean-to-US East Coast went down by 16% in March to average WS110 points, lower by WS22 points from the previous month. This was the only trading route that saw an average drop in freight rates in March.

**Table 7 - 5: Dirty Aframax spot tanker freight rates, Worldscale**

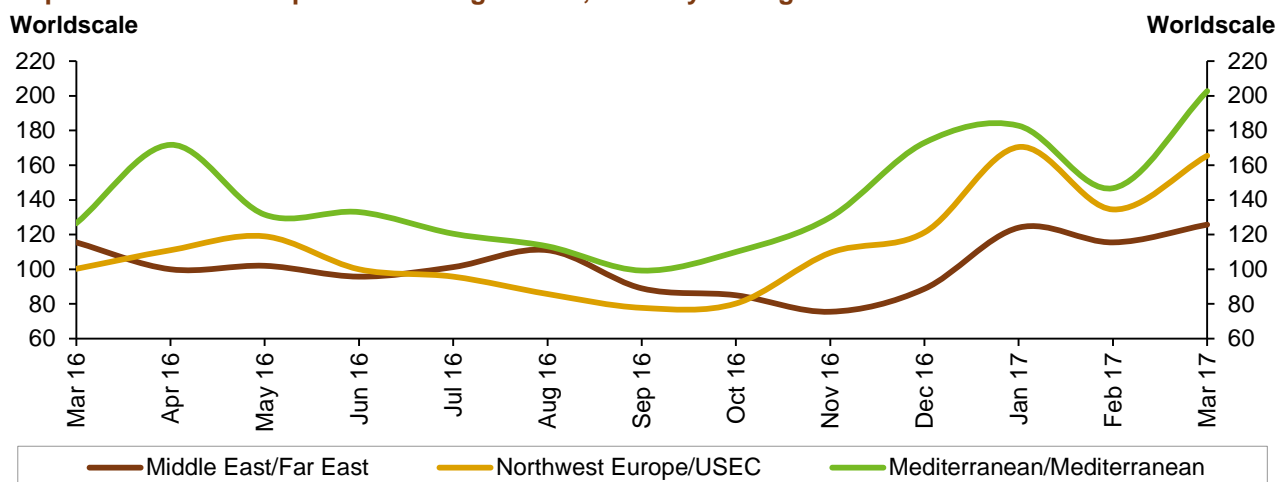
	Size 1,000 DWT	Jan 17	Feb 17	Mar 17	Change Mar 17/Feb 17
Indonesia/East	80-85	115	105	121	16
Caribbean/US East Coast	80-85	156	131	110	-22
Mediterranean/Mediterranean	80-85	142	103	113	11
Mediterranean/Northwest Europe	80-85	138	94	107	13

Sources: Argus Media and OPEC Secretariat.

## Clean tanker freight rates

**Clean spot tanker freight rates** shared the tanker market's general upward momentum, with mostly higher March freight rates, apart from one route. Average clean tanker rates rose in March, to show an improvement not only on a monthly basis, but also on an annual basis. Average clean tanker freight rates went up by 20% from February and by 38% from the same month a year earlier. The clean tanker market has been fairly active in several areas, with improved sentiment mostly for LR1 and MR tankers.

**Graph 7 - 2: Products spot tanker freight rates, monthly average**



Sources: Argus Media and OPEC Secretariat.

In the **East of Suez**, clean tanker spot freight rates from the Middle East-to-East route experienced an increase of 9% compared with the previous month. Clean spot freight rates for tankers trading on the Middle East-to-East route averaged WS126 points in March, while average gains were offset by lower spot freight rates registered for tankers operating on the Singapore-to-East route. These fell by 4% from the previous month.

In the **West of Suez**, clean tanker spot freight rates increased as rates edged up for tankers of different sizes. Spot freight rates for tankers operating on the NWE-to-US East Coast increased by 23%, to average WS166 points in March.

In the **Mediterranean**, March clean spot freight rates increased compared with the previous month, partially on the back of operational delays. Clean spot freight rates for tankers trading in the Mediterranean-to-Mediterranean route rose by 38% in March compared with the previous month, to average WS203 points. Clean spot freight rates for tankers operating on the Mediterranean-to-NWE route gained 36%, to stand at WS213 points. On average, spot freight rates registered in both East and West of Suez showed an annual increase of 8% and 59%, respectively.

**Table 7 - 6: Clean spot tanker freight rates, Worldscale**

	Size 1,000 DWT	Jan 17	Feb 17	Mar 17	Change Mar 17/Feb 17
<b>East of Suez</b>					
Middle East/East	30-35	124	116	126	10
Singapore/East	30-35	174	157	151	-6
<b>West of Suez</b>					
Northwest Europe/US East Coast	33-37	171	135	166	31
Mediterranean/Mediterranean	30-35	183	147	203	56
Mediterranean/Northwest Europe	30-35	198	157	213	56

Sources: Argus Media and OPEC Secretariat.

## Oil Trade

In March, preliminary data show that US crude oil imports stayed almost stable from the previous month to stand at 8.0 mb/d. On an annual basis, US crude imports were down by only 76 tb/d from a year earlier. US product imports declined by 45 tb/d or 2.0% to average 2.2 mb/d m-o-m, while on a y-o-y basis they rose by 223 tb/d or 11.4%.

Japan's crude oil imports increased in February by 78 tb/d or 2% to average 3.5 mb/d. On an annual basis, crude imports had a similar increase in February, up by 76 tb/d. Japan's product imports dropped in February by 17 tb/d to average 642 tb/d.

China's crude oil imports increased in February to stand at 8.3 mb/d, up by 273 tb/d, or 3%, from the previous month. Y-o-y, China's crude imports were up by 282 tb/d. China's product imports increased in February by 151 tb/d from the previous month and 93 tb/d from a year earlier to average 1.4 mb/d.

In February, India's crude imports averaged 4.3 mb/d, higher than the level seen one month earlier. Crude imports in February were almost stable from those of the same month a year ago. In February, product imports rose by 93 tb/d from a month earlier to average 904 tb/d. Y-o-y, India's product imports were up by 167 tb/d or 23%.

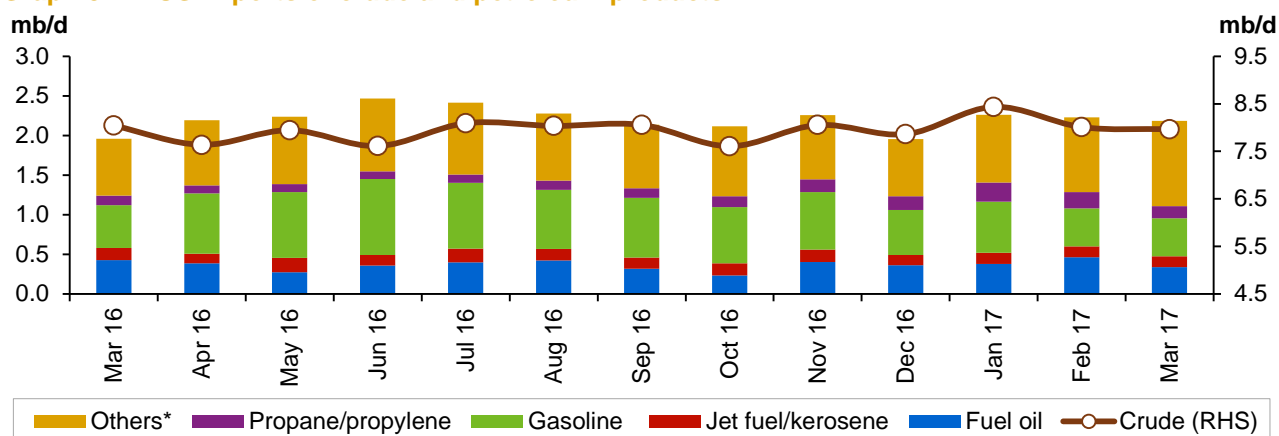
## US

Preliminary data for March shows that US **crude oil imports** stayed almost stable from the previous month to stand at 8.0 mb/d. On an annual basis, US crude imports were down by only 76 tb/d from a year earlier.

US **product imports** declined by 45 tb/d or 2% to average 2.2 mb/d m-o-m, while on a y-o-y basis they rose by 223 tb/d, or 11%, in a year-to-date comparison.

Year-to-date average, both **crude and product imports** rose by 261 tb/d and 181 tb/d, y-o-y, respectively.

**Graph 8 - 1: US imports of crude and petroleum products**

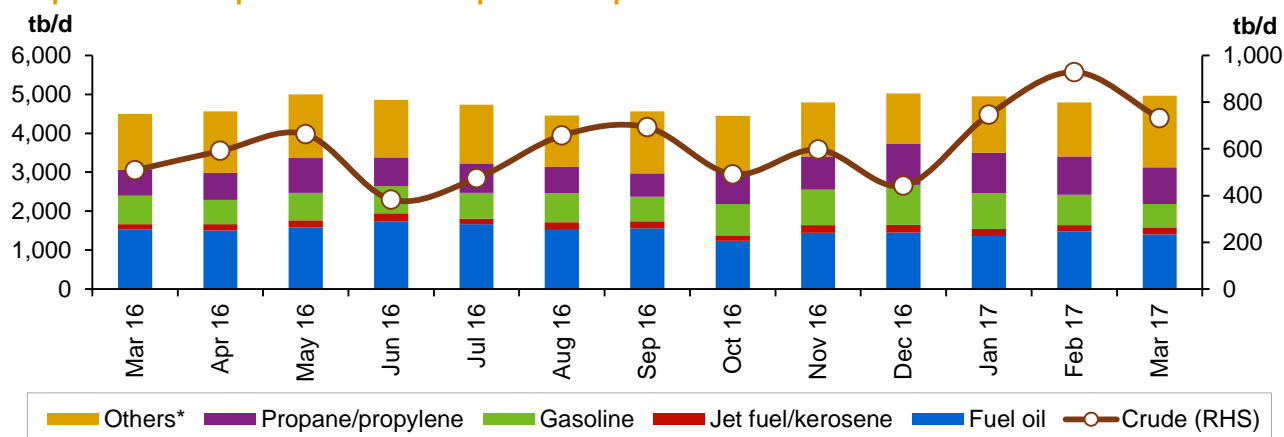


Note: \*Others: Contains natural gas liquids, liquefied refinery gases (LRG's), other liquids and all finished petroleum products except gasoline, jet fuel/kerosene, fuel oil and propane/propylene.

Sources: US Energy Information Administration and OPEC Secretariat.

US **product exports** went up by 171 tb/d or 3.6% in March to average 5 mb/d from previous month. In an annual comparison the figures show an increase of 467 tb/d or 10.4%.

Graph 8 - 2: US exports of crude and petroleum products



Note: \*Others: Contains natural gas liquids, liquefied refinery gases (LRG's), other liquids and all finished petroleum products except gasoline, jet fuel/kerosene, fuel oil and propane/propylene.

Sources: US Energy Information Administration and OPEC Secretariat.

As a result, **US total net imports dropped in March to average 4.5 mb/d**, down by 1.4% from the previous month and by 10.9% from the previous year.

Table 8 - 1: US crude and product net imports, tb/d

	Jan 17	Feb 17	Mar 17	Change Mar 17/Feb 17
Crude oil	7,689	7,082	7,235	154
Total products	-2,682	-2,562	-2,778	-217
<b>Total crude and products</b>	<b>5,007</b>	<b>4,520</b>	<b>4,457</b>	<b>-63</b>

Sources: US Energy Information Administration and OPEC Secretariat.

In January, Canada's **prime crude supplier** to the US held a share of 42% of total US crude imports, although its exports to the US rose from a month earlier by 87 tb/d. Saudi Arabia came in as second-biggest supplier to the US with a share of 16% of total crude imports, while Venezuela came in as third-largest supplier to the US with a share of 8%. Imports from both Canada and Saudi Arabia rose from a the previous month by 3% and 33%, respectively.

**Crude imports from OPEC Member Countries** were higher in January from the previous month by 284 tb/d, or 10%, accounting for 42% of total US crude imports. US product imports from OPEC Member Countries rose as well, up by 16 tb/d from a month earlier to stand at 214 tb/d, with a share of 9% of total product imported by the US.

As to **product supplier share**, Canada and Russia were the first and second suppliers to the US, with a share of 33% and 15%, respectively. Imports from both countries were up from a month before by 133 tb/d and 54 tb/d, respectively. Algeria came in as third-biggest product supplier to the US, holding a share of 5% of total product imported by US.

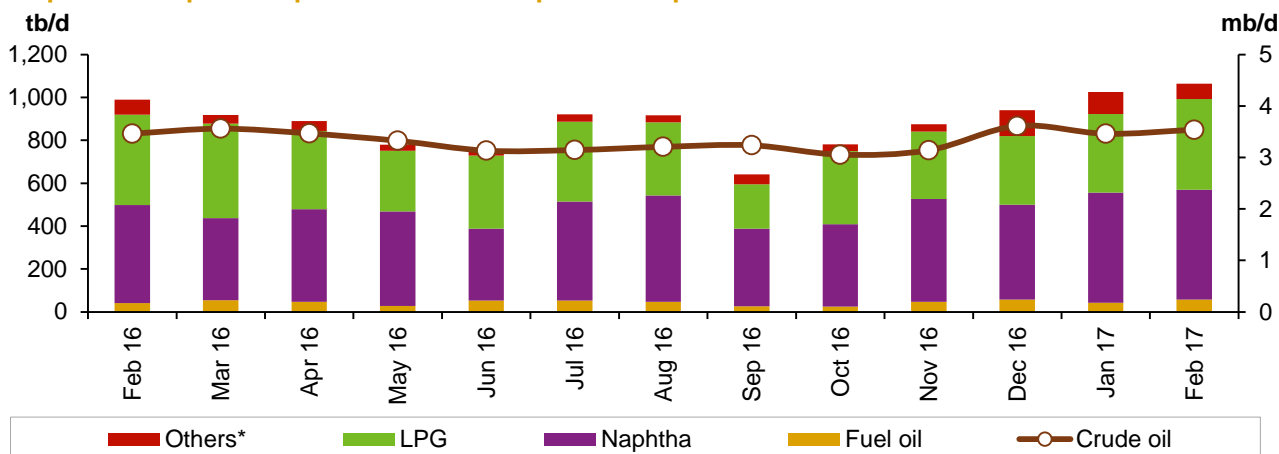
As to **US crude imports by region in January**, no imports were registered from Asia or the former Soviet Union (FSU). US crude imports from North America, the top crude source region to the US, averaged 3.5 mb/d, followed by Latin America, which stood at 2.1 mb/d in January, while the Middle East came in third with an average of 2 mb/d. Imports from Africa rose from the previous month to stand at 619 tb/d.

As to **crude import by PADD**; in PADD 1 on the East Coast, the highest crude imports were sourced from Africa and averaged 405 tb/d followed by imports from North America. Imports from PADD 2 were mostly covered by North America and stood at 2.4 mb/d in January. Imports from PADD 3 were diversified from different regions, however, most came from Latin America and North America, averaging 1.6 mb/d and 1.4 mb/d, respectively, in January. PADD 4 imports from North America averaged 325 tb/d, up by 82 tb/d from the previous month. In PADD 5, the main crude sources remained Latin America and the Middle East, followed by North America.

## Japan

Japan's **crude oil imports** increased in February by 78 tb/d, or 2%, to average 3.5 mb/d. Y-o-y crude imports increased similarly in February by 76 tb/d.

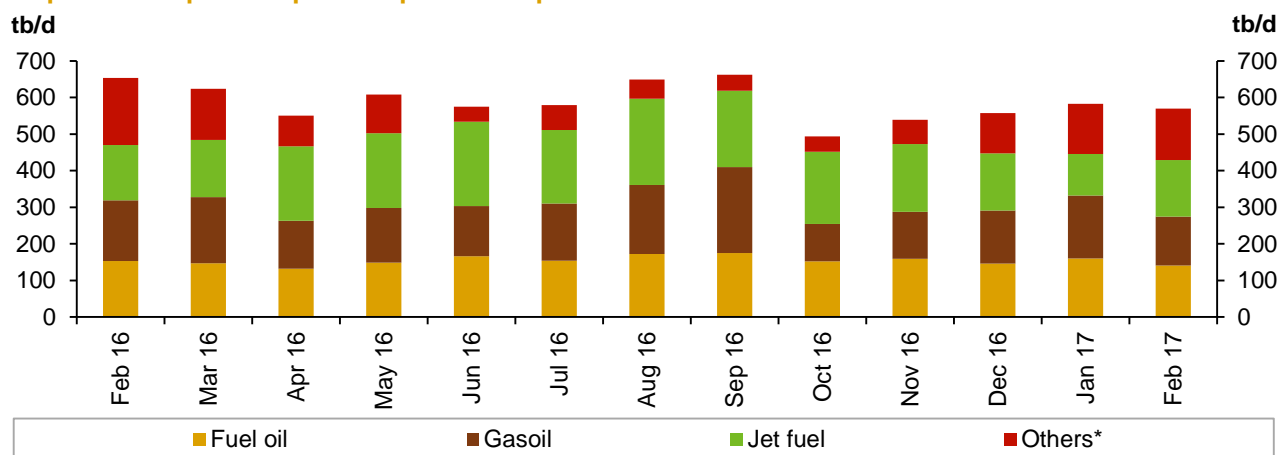
**Graph 8 - 3: Japan's imports of crude and petroleum products**



Note: \*Others: Contains gasoline, jet fuel, kerosene, gasoil, asphalt and paraffin wax.  
Sources: Ministry of Economy, Trade and Industry of Japan and OPEC Secretariat.

Looking at **crude supplier share**, Saudi Arabia maintained its position as top supplier to Japan, holding a share of 41% of total crude exports, as exports to Japan remained almost stable from the previous month and averaged 1.4 mb/d. The UAE came in as second-largest supplier to Japan with a share of 21% of total crude imports. Kuwait came in third, holding a share of 8% as it increased its crude exports to Japan from the previous month by 63 tb/d. Japan's product imports dropped in February by 17 tb/d to average 642 tb/d. At the same time, Japan's retail sales fell by 3.49% from the previous year. Japanese exports in February were less than the previous month by 13 tb/d to average 570 tb/d.

**Graph 8 - 4: Japan's exports of petroleum products**



\*Others: Contains LPG, gasoline, naphtha, kerosene, lubricating oil, asphalt and paraffin wax.  
Sources: Ministry of Economy, Trade and Industry of Japan and OPEC Secretariat.

Accordingly, **Japan's net imports rose in February by 75 tb/d m-o-m to average 3.6 mb/d, up by 234 tb/d y-o-y.**

Table 8 - 2: Japan's crude and product net imports, tb/d

	Dec 16	Jan 17	Feb 17	Change Feb 17/Jan 17
Crude oil	3,613	3,460	3,539	78
Total products	64	75	72	-4
<b>Total crude and products</b>	<b>3,677</b>	<b>3,536</b>	<b>3,610</b>	<b>75</b>

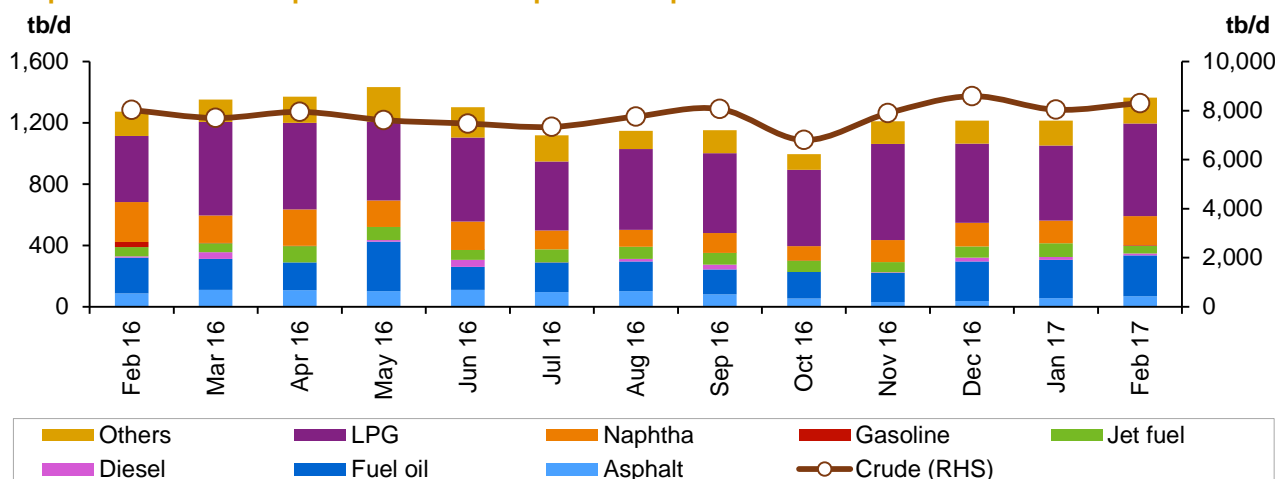
Sources: Ministry of Economy, Trade and Industry of Japan and OPEC Secretariat.

## China

Following a drop encountered the previous month, **China's crude oil imports** increased in February to stand at 8.3 mb/d, up by 273 tb/d or 3% from the previous month. Y-o-y, China's crude imports were up by 282 tb/d. On a year-to-date analysis, the figures reflect an increase of 1 mb/d, or 14%. In February, China reported a high refinery run and utilisation up by 600 tb/d.

In terms of **supplier share**, Saudi Arabia, Russia and Angola were the top crude suppliers to China in February, with a share of 15%, 14% and 10%, respectively. In February, supplies from both Saudi Arabia and Russia were up by 60 tb/d and 37 tb/d, respectively, from the previous month, while imports from Angola declined by 317 tb/d. On the other hand, China's product imports increased in February by 419 tb/d from the previous month and 357 tb/d from a year earlier to average 1.2 mb/d.

Graph 8 - 5: China's imports of crude and petroleum products

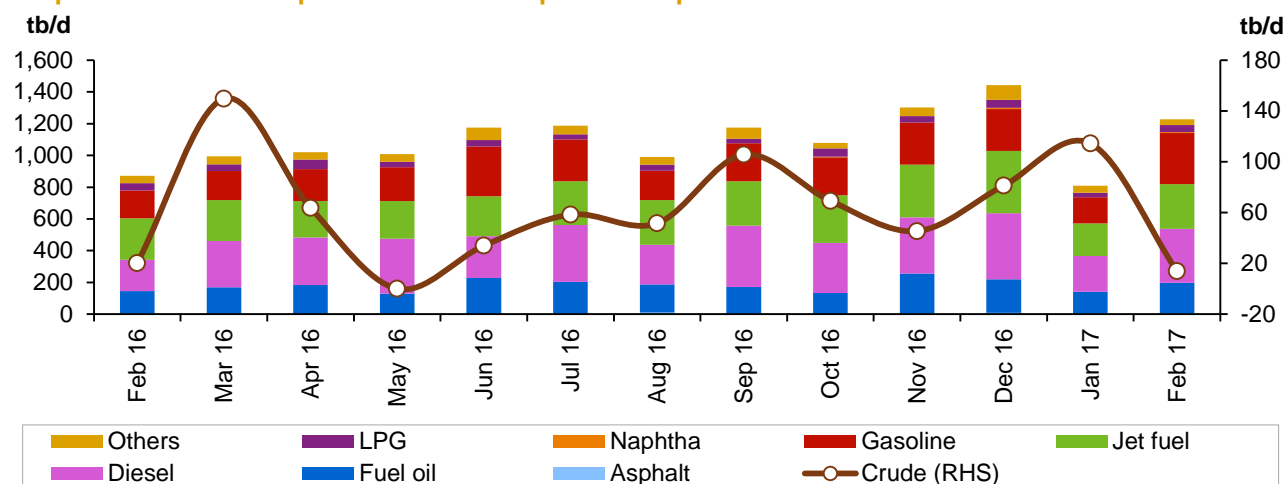


Sources: Argus China Petroleum and China, Oil and Gas Petrochemicals and OPEC Secretariat.

**China's crude exports** dropped in February to average only 14 tb/d, while China's product exports went up from the previous month by 419 tb/d to average 1.2 mb/d, mainly as exports of gasoline and diesel rose by 157 tb/d and 116 tb/d, respectively.



**Graph 8 - 6: China's exports of crude and petroleum products**



Sources: Argus China Petroleum and China, Oil and Gas Petrochemicals and OPEC Secretariat.

As a result, **China's net oil imports rose by 106 tb/d or 1% from the previous month**, while showing no significant changes from the last year.

**Table 8 - 3: China's crude and product net imports, tb/d**

	Dec 16	Jan 17	Feb 17	Change Feb 17/Jan 17
Crude oil	8,509	7,922	8,295	373
Total products	-227	404	137	-268
<b>Total crude and products</b>	<b>8,282</b>	<b>8,326</b>	<b>8,432</b>	<b>106</b>

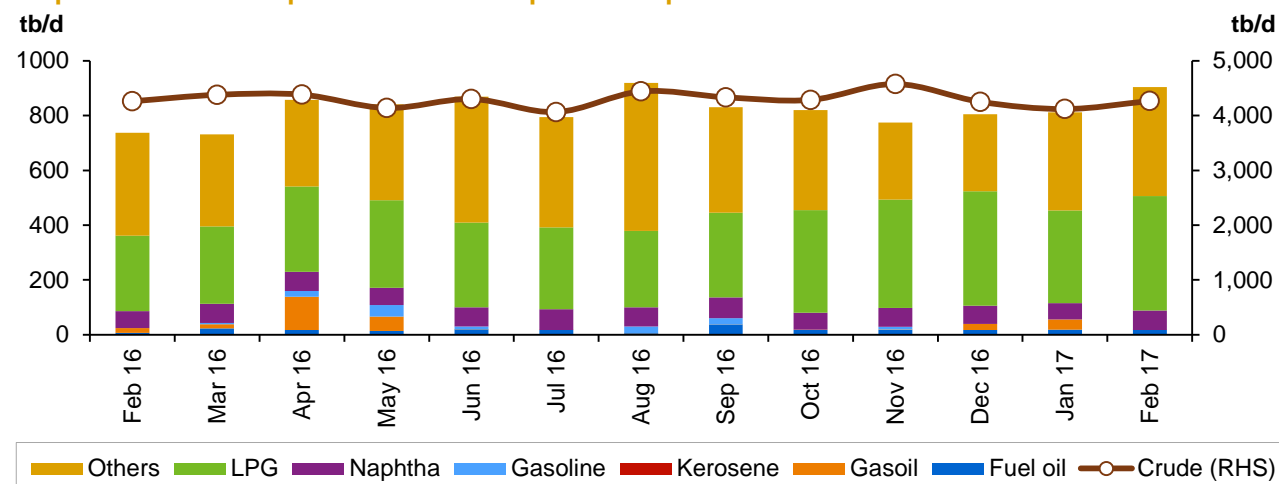
Sources: Argus China Petroleum and China, Oil and Gas Petrochemicals and OPEC Secretariat.

## India

In February, India's **crude imports** averaged 146 tb/d above the level seen one month before, showing the highest crude imports in the past three months. Crude imports in February were almost stable from those of the same month a year earlier. Refinery runs showed no significant change in February from a month ago.

**Product imports** in February rose by 93 tb/d from a month before to average 904 tb/d y-o-y. India's product imports were up by 167 tb/d, or 23%. The monthly product import gain came mainly as a result of higher imports of LPG and naphtha.

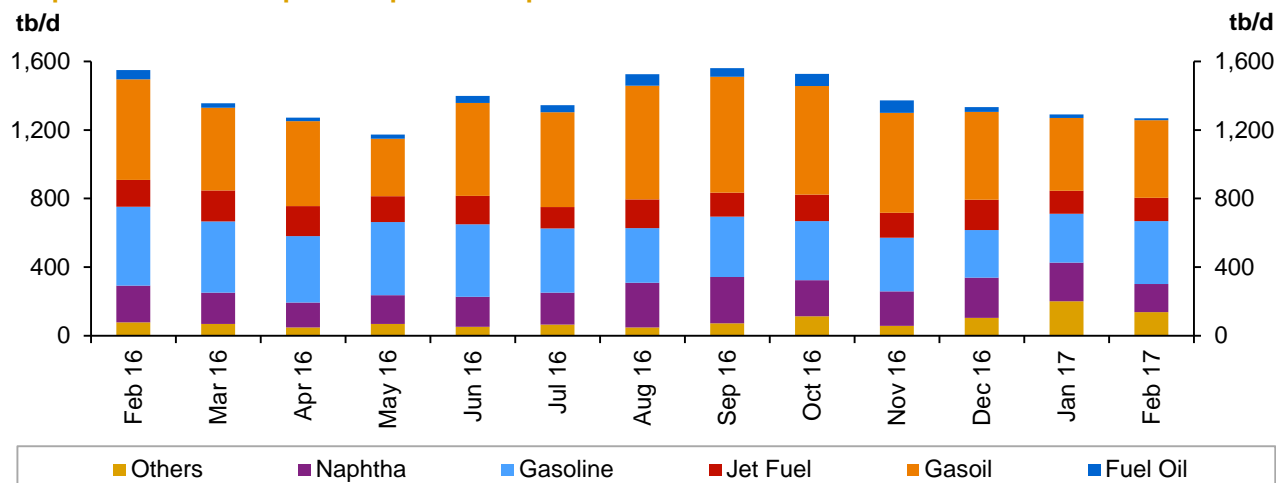
**Graph 8 - 7: India's imports of crude and petroleum products**



Sources: Petroleum Planning & Analysis Cell of India and OPEC Secretariat.

India's **product exports** dropped in February by 23 tb/d, or 2%, from the previous month to average 1.3 mb/d. In February, the drop was larger than in the previous month, and was down by 281 tb/d from the previous year. The export of all products dropped, while kerosene exports remained flat.

**Graph 8 - 8: India's exports of petroleum products**



Sources: Petroleum Planning & Analysis Cell of India and OPEC Secretariat.

Consequently, **India's net imports rose by 262 tb/d to average 3.9 mb/d**, up by 7% m-o- month and 13% from a year before.

**Table 8 - 4: India's crude and product net imports, tb/d**

	Dec 16	Jan 17	Feb 17	Change Feb 17/Jan 17
Crude oil	4,252	4,119	4,266	146
Total products	-529	-479	-364	115
<b>Total crude and products</b>	<b>3,723</b>	<b>3,640</b>	<b>3,901</b>	<b>262</b>

Note: India data table does not include information for crude import and product export by Reliance Industries.

Sources: Petroleum Planning & Analysis Cell of India and OPEC Secretariat.

## FSU

In February, **total crude oil exports from the former Soviet Union dropped by 58 tb/d or 0.8% to average 6.8 mb/d**. Similarly, crude exports through the Russian pipeline also fell in February by 97 tb/d to average 4.1 mb/d.

Total shipments from the **Black Sea** dropped by 23 tb/d or 4% to average 519 tb/d, while total **Baltic Sea** exports rose by 90 tb/d in February, as shipments from both Primorsk port terminal and UST Luga port increased by 54 tb/d and 36 tb/d, respectively. Druzhba pipeline total shipments fell by 118 tb/d to average 944 tb/d. **Kozmino** shipments were lower in February by 46 tb/d or 7% to average 601 tb/d.

Exports through the **Lukoil system** were lower from the previous month in the Barents Sea as Varandey platform shipments declined by 17 tb/d, while in the Baltic Sea, Kalinigrad port terminal exports were almost stable from the previous month.

Looking at **Asia, Russian Far East** total exports increased from the previous month to average 383 tb/d. Central Asian total exports stood at 229 tb/d, down by 8 tb/d.

**Black Sea** total exports went up by 64 tb/d as a result of increased shipments from the Novorossiysk port terminal (cbc) and Supsa terminal. In the Mediterranean Sea, BTC supplies declined from the previous month by 22 tb/d, or 3%, to average 706 tb/d.

## Oil Trade

**FSU total product exports** rose slightly by 38 tb/d or 1% from the previous month to average 3.5 mb/d. This small gain in product exports came as a result of higher imported volumes of gasoil, VGO and gasoline, which increased by 76 tb/d, 65 tb/d and 28 tb/d, respectively, from a month earlier.

Table 8 - 5: Recent FSU exports of crude and petroleum products by sources, tb/d

		2016	3Q16	4Q16	Jan 17	Feb 17
<b>Transneft system</b>						
<b>Europe</b>	<b>Black sea total</b>	<b>600</b>	<b>580</b>	<b>545</b>	<b>542</b>	<b>519</b>
	Novorossiysk port terminal - total	600	580	545	542	519
	of which: Russian oil	443	425	386	422	308
	Others	157	156	159	120	211
	<b>Baltic sea total</b>	<b>1,593</b>	<b>1,561</b>	<b>1,668</b>	<b>1,581</b>	<b>1,671</b>
	Primorsk port terminal - total	1,000	1,005	1,010	1,001	1,055
	of which: Russian oil	1,000	1,005	1,010	1,001	1,055
	Others	0	0	0	0	0
	Ust-Luga port terminal - total	593	556	658	580	617
	of which: Russian oil	388	360	446	395	463
	Others	205	196	212	186	154
	<b>Druzhba pipeline total</b>	<b>1,072</b>	<b>1,097</b>	<b>1,098</b>	<b>1,062</b>	<b>944</b>
	of which: Russian oil	1,040	1,066	1,066	1,030	911
	Others	32	31	32	32	33
<b>Asia</b>	<b>Pacific ocean total</b>	<b>646</b>	<b>658</b>	<b>666</b>	<b>647</b>	<b>601</b>
	Kozmino port terminal - total	646	658	666	647	601
	<b>China (via ESPO pipeline) total</b>	<b>335</b>	<b>311</b>	<b>332</b>	<b>348</b>	<b>348</b>
	China Amur	335	311	332	348	348
	<b>Total Russian crude exports</b>	<b>4,246</b>	<b>4,207</b>	<b>4,309</b>	<b>4,180</b>	<b>4,084</b>
<b>Lukoil system</b>						
<b>Europe &amp; North America</b>	<b>Barents sea total</b>	<b>159</b>	<b>163</b>	<b>154</b>	<b>173</b>	<b>155</b>
	Varandey offshore platform	159	163	154	173	155
<b>Europe</b>	<b>Baltic sea total</b>	<b>15</b>	<b>14</b>	<b>13</b>	<b>15</b>	<b>16</b>
	Kalinigrad port terminal	15	14	13	15	16
<b>Other routes</b>						
<b>Asia</b>	<b>Russian Far East total</b>	<b>360</b>	<b>274</b>	<b>372</b>	<b>370</b>	<b>383</b>
	Aniva bay port terminal	119	95	135	142	133
	De Kastri port terminal	241	179	236	228	250
	<b>Central Asia total</b>	<b>194</b>	<b>200</b>	<b>195</b>	<b>237</b>	<b>229</b>
	Kenkiyak-Alashankou	194	200	195	237	229
<b>Europe</b>	<b>Black sea total</b>	<b>1,078</b>	<b>948</b>	<b>1,226</b>	<b>1,152</b>	<b>1,217</b>
	Novorossiysk port terminal (CPC)	957	822	1,113	1,068	1,105
	Supsa port terminal	79	77	64	64	93
	Batumi port terminal	42	49	49	20	18
	Kulevi port terminal	0	0	0	0	0
	<b>Mediterranean sea total</b>	<b>668</b>	<b>663</b>	<b>615</b>	<b>728</b>	<b>706</b>
	BTC	668	663	615	728	706
<b>Russian rail</b>						
	<b>Russian rail</b>	<b>34</b>	<b>35</b>	<b>37</b>	<b>42</b>	<b>49</b>
	of which: Russian oil	30	33	36	42	49
	Others	4	2	2	0	0
	<b>Total FSU crude exports</b>	<b>6,754</b>	<b>6,505</b>	<b>6,921</b>	<b>6,897</b>	<b>6,840</b>
<b>Products</b>						
	Gasoline	189	139	173	178	206
	Naphtha	506	536	510	611	565
	Jet	40	54	30	32	34
	Gasoil	972	859	877	1,099	1,175
	Fuel oil	1,043	1,013	1,023	1,164	1,077
	VGO	299	324	333	364	429
	<b>Total FSU product exports</b>	<b>3,050</b>	<b>2,925</b>	<b>2,945</b>	<b>3,448</b>	<b>3,486</b>
	<b>Total FSU oil exports</b>	<b>9,804</b>	<b>9,430</b>	<b>9,866</b>	<b>10,345</b>	<b>10,326</b>

Sources: Argus Nefte Transport and Argus Global Markets.

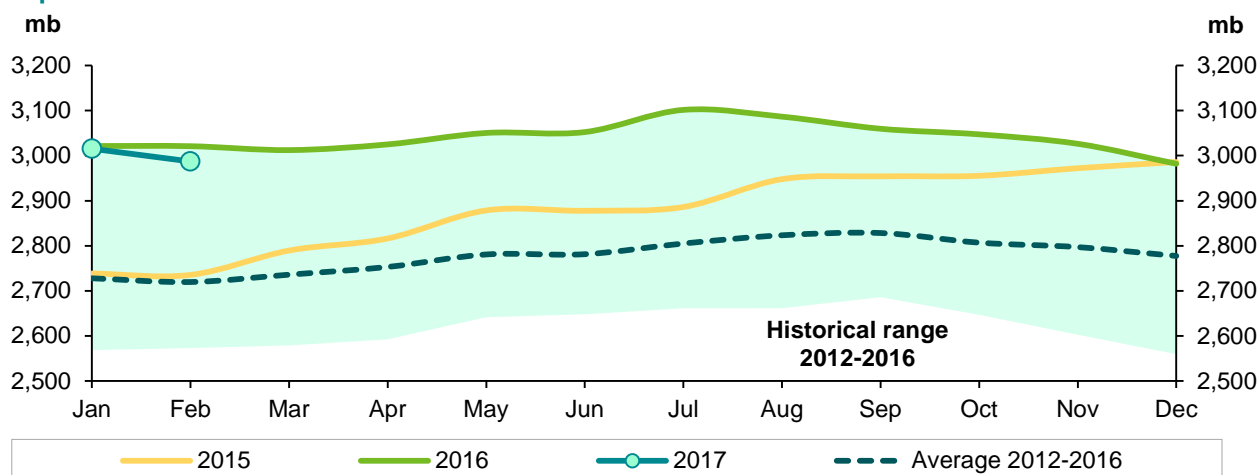
## Stock Movements

OECD commercial oil stocks fell in February to stand at 2,987 mb, which is around 268 mb above the latest five-year average. Crude and products indicated a surplus of 227 mb and 41 mb above the seasonal norm, respectively. In terms of days of forward cover, OECD commercial stocks stood at 64.2 days, 4.6 days higher than the latest five-year average. Preliminary data for March shows that US total commercial oil stocks fell by 9.4 mb for the second consecutive month to stand at 1,337.4 mb. At this level, they are 11.1 mb above the same period a year ago and 201.3 mb higher than the latest five-year average. Within the components, crude oil rose by 7.1 mb, while products fell by 16.5 mb. The latest information for China shows that total commercial oil inventories rose by 18.2 mb in February to stand at 396.2 mb, which is 12.2 mb lower than the previous year. Within the components, crude fell by 3.2 mb, while product stocks rose by 21.4 mb.

## OECD

Preliminary data for February shows that **total OECD commercial oil stocks** fell by 28.3 mb, reversing the build of the previous month to stand at 2,987 mb, which is around 34.0 mb lower than the same time one year ago, but 268 mb above the latest five-year average. Within the components, crude rose by 16.3 mb, while products fell by 44.6 mb. All regions witnessed a stock draw.

Graph 9 - 1: OECD's commercial oil stocks



Sources: Argus Media, Euroilstock, IEA, METI, OPEC Secretariat and US Energy Information Administration.

**OECD commercial crude stocks** rose by 16.3 mb in February, following a massive build of 45.2 mb in January. At 1,546 mb, they stood 47 mb above the same time a year ago and around 227 mb higher than the latest five-year average. While OECD Europe and OECD Asia Pacific stocks witnessed a stock draw, OECD America experienced a stock build in commercial crude stocks.

By contrast, **OECD product inventories** fell by 44.6 mb in February to stand at 1,441 mb, which is 81 mb below the same time a year ago, but 41 mb above the seasonal norm. All regions witnessed a product stock draw.

In terms of **days of forward cover**, OECD commercial stocks rose by 0.3 mb in February to stand at 64.2 days, which is 0.9 days less than the same period in 2016, and 4.6 days higher than the latest five-year average. Within the regions, OECD Americas had 7.7 more days of forward cover than the historical average to stand at 65.4 days in February. OECD Asia Pacific stood 1.9 days above the seasonal average to finish the month at 51.6 days, while OECD Europe indicated a surplus of 0.5 days above the seasonal norm, averaging 69.5 days in February.

## OECD Americas

**Total commercial stocks in OECD Americas** fell by 10.8 mb in February to stand at 1,611 mb, 31.5 mb above a year ago and 230 mb higher than the seasonal norm. Within the components, crude rose by 23.9 mb, while product stocks fell by 34.7 mb.

At the end of February, **commercial crude oil stocks** in OECD Americas rose, ending the month at 881 mb, which is 67 mb above the same time one year ago and 192 mb above the latest five-year average. The build in OECD Americas commercial crude stocks could be attributed to lower US crude throughput, which decreased by more than 800 tb/d to average 15.6 mb/d amid refinery maintenance. Higher US crude domestic production also supported this build; however, lower US crude imports limited a further build in crude oil stocks.

By contrast, **commercial product stocks** in OECD Americas fell by 34.7 mb in February, the sixth consecutive monthly drop, to stand at 730 mb. At this level, they are 35.4 mb less than the same time one year ago, but 37 mb higher than the seasonal norm. Higher demand, combined with lower refinery output, could be behind the drop in OECD America product stocks.

## OECD Europe

**OECD Europe's total commercial stocks** fell by 12.6 mb in February, ending the month at 965 mb, which is 54 mb lower than the same time a year ago, but 27 mb above the latest five-year average. Crude and products fell by 5.4 mb and 7.2 mb, respectively.

OECD Europe's **commercial crude stocks** fell in February, ending the month at 417 mb, which is 9.4 mb lower than a year earlier, but 24.2 mb higher than the latest five-year average. An increase in crude throughput was behind the drop in crude oil stocks. The fall in crude oil stocks could be attributed to lower domestic North Sea output, combined with higher crude throughput during the month of February.

OECD Europe's **commercial product stocks** also fell by 7.2 mb to end February at 549 mb, which is 45 mb lower than the same time a year ago and 3.0 mb higher than the seasonal norm.

## OECD Asia Pacific

**OECD Asia Pacific commercial oil stocks** fell by 4.9 mb in February, reversing the January build, to stand at 411 mb, which is 10.9 mb lower than a year ago and 11 mb above the five-year average.

Within the components, **crude and products** fell by 2.3 mb and 2.6 mb from January, respectively. In February, **crude inventories** ended the month at 248 mb, which is 10.3 mb below a year ago, albeit 10.9 mb above the seasonal norm.

OECD Asia Pacific's **total product inventories** ended February at 162 mb, standing 0.6 mb lower than the same time a year ago and 0.2 mb higher than the seasonal norm.

**Table 9 - 1: OECD's commercial stocks, mb**

	<b>Dec 16</b>	<b>Jan 17</b>	<b>Feb 17</b>	<b>Change Feb 17/Jan 17</b>	<b>Feb 16</b>
<b>Crude oil</b>	1,484	1,530	1,546	16.3	1,499
<b>Products</b>	1,498	1,486	1,441	-44.6	1,522
<b>Total</b>	<b>2,982</b>	<b>3,015</b>	<b>2,987</b>	<b>-28.3</b>	<b>3,021</b>
<b>Days of forward cover</b>	<b>63.3</b>	<b>63.9</b>	<b>64.2</b>	<b>0.3</b>	<b>65.1</b>

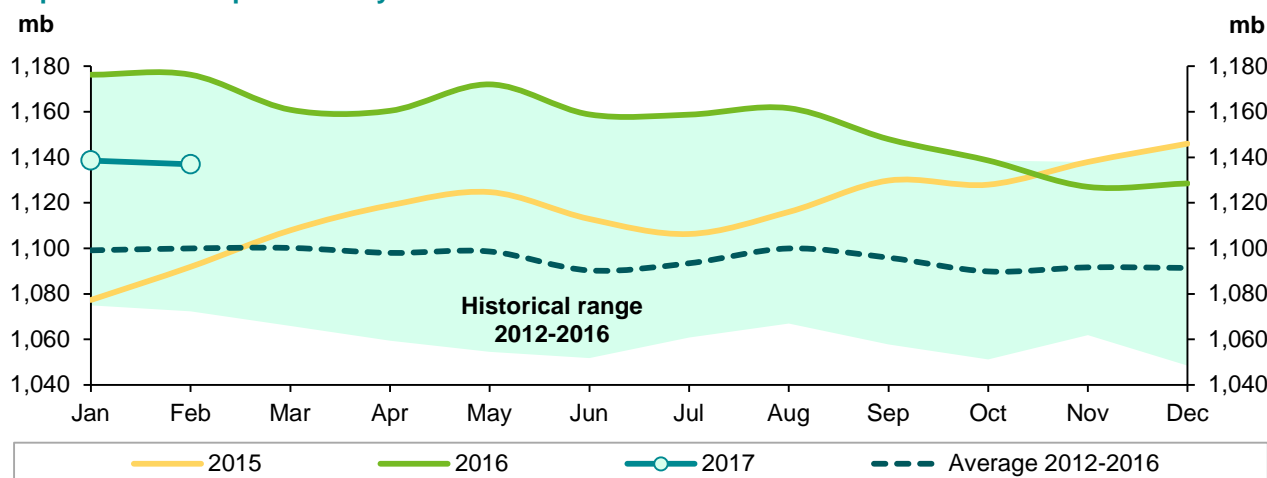
*Note: Totals may not add up due to independent rounding.*

*Sources: Argus Media, Euroilstock, IEA, METI, OPEC Secretariat and US Energy Information Administration.*

## EU plus Norway

Preliminary data for February shows that total **European stocks** fell by 1.6 mb following a build of 10.0 mb in January. At 1,136.9 mb, European stocks are 39.4 mb, or 3.3%, lower than the same time a year ago, but remained 37.0 mb, or 3.4%, higher than the latest five-year average. Crude fell by 5.4 mb, while total product stocks rose by 3.8 mb.

**Graph 9 - 2: EU-15 plus Norway's total oil stocks**



Source: Euroilstock.

European **crude inventories** fell in February to stand at 474.7 mb, which is 18.6 mb, or 3.8%, lower than the same period a year ago. However, they are 8.4 mb, or 1.8%, higher than the seasonal average. An increase in crude throughput was behind the drop in crude oil stocks. Preliminary data indicates that European refiners were running at around 10.4 mb/d in the first two months of 2017, about 100 tb/d higher than the same period one year ago.

By contrast, European **product stocks** rose by 3.8 mb, ending February at 662.2 mb. At this level, they are 20.7 mb, or 3.0% lower than the same time a year ago, but still 28.6 mb, or 4.5%, above the seasonal norm. Within products, gasoline and distillate stocks rose, while residual fuel oil witnessed a draw.

**Distillate stocks** rose by 5.1 mb in February to stand at 446.6 mb. At this level, distillate inventories are 1.2 mb, or 0.3%, higher than the same time a year ago, and 44.3 mb, or 11.0%, above the latest five-year average. **Gasoline stocks** also rose, by 0.4 mb in February, to stand at 122.7 mb, which is 7.6 mb, or 5.8%, lower than the same time one year ago, but 2.0 mb, or 1.7%, higher than the seasonal norm. The build in distillate and gasoline stocks was driven mainly by higher output as demand for both products was greater in February, than in January. In contrast, **residual fuel oil stocks** fell by 1.8 mb in February to stand at 68.7 mb, which is 13.1 mb, or 16.0%, less than the same month a year ago, and 13.5 mb, or 16.4%, lower than the latest five-year average.

**Table 9 - 2: EU-15 plus Norway's total oil stocks, mb**

	Dec 16	Jan 17	Feb 17	Change Feb 17/Jan 17	Feb 16
<b>Crude oil</b>	<b>466.7</b>	<b>480.1</b>	<b>474.7</b>	<b>-5.4</b>	<b>493.4</b>
<b>Gasoline</b>	118.0	122.3	122.7	0.4	130.4
<b>Naphtha</b>	23.8	24.2	24.2	0.0	25.4
<b>Middle distillates</b>	444.2	441.5	446.6	5.1	445.3
<b>Fuel oils</b>	75.9	70.5	68.7	-1.8	81.8
<b>Total products</b>	<b>661.8</b>	<b>658.4</b>	<b>662.2</b>	<b>3.8</b>	<b>682.9</b>
<b>Total</b>	<b>1,128.5</b>	<b>1,138.6</b>	<b>1,136.9</b>	<b>-1.6</b>	<b>1,176.3</b>

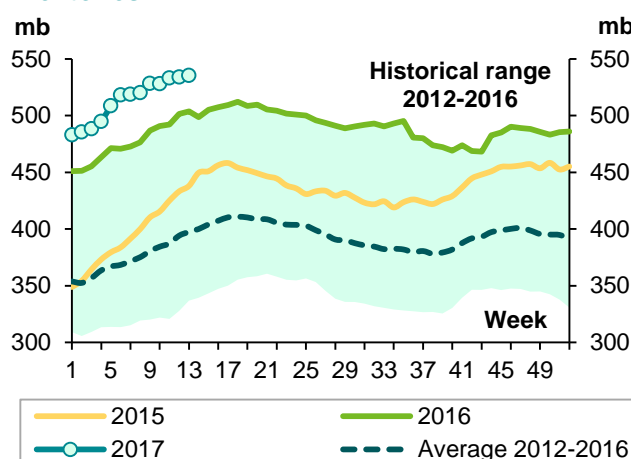
Sources: Argus and Euroilstock.

# US

Preliminary data for March shows that US **total commercial oil stocks** fell by 9.4 mb for the second consecutive month to stand at 1,337.4 mb. At this level, they are 11.1 mb, or 0.8%, above the same period a year ago and 201.3 mb, or 17.7%, higher than the latest five-year average. Within the components, crude rose by 7.1 mb, while products fell by 16.5 mb.

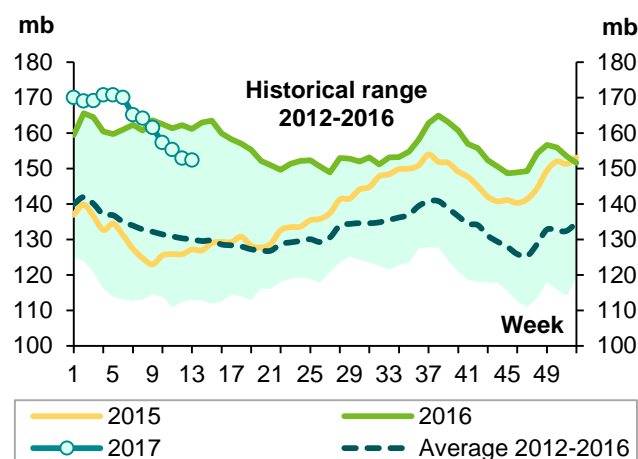
US **commercial crude stocks** rose in March for the third consecutive month to stand at 535.5 mb, 34.0 mb, or 6.8%, above the same time one year ago and 133.2 mb, or 33.1%, above the latest five-year average. The build in US commercial crude stocks could be attributed to higher crude imports combined with higher domestic production. However, higher crude throughput limited further build in crude oil commercial stocks. A greater refinery utilisation rate could provide support to crude stocks in the coming months as total crude imports remained stronger.

**Graph 9 - 3: US weekly commercial crude oil inventories**



Sources: US Energy Information Administration and OPEC Secretariat.

**Graph 9 - 4: US weekly distillates inventories**



Sources: US Energy Information Administration and OPEC Secretariat.

In contrast, **total product stocks** fell by 16.5 mb in March to stand at 801.9 mb, 22.9 mb, or 2.8%, down from the level seen at the same time in 2016, but 68.2 mb, or 9.3%, above the seasonal average. With the exception of residual fuel, all products experienced a stock draw.

**Gasoline stocks** fell by 10.2 mb in March, following a 10.7 mb stock draw in February. At 239.1 mb, gasoline stocks stood 4.2 mb, or 1.7%, lower than the same period a year ago, but 10.9 mb, or 4.8%, above the latest five-year average. The drop came mainly as a result of higher consumption, which increased by around 600 tb/d from the previous month to stand at 9.3 mb/d. **Distillate stocks** also fell by 9.2 mb in March for the second consecutive month to stand at 152.4 mb, indicating a deficit of 8.2 mb, or 5.1%, over the same period a year ago, and 21.0 mb, or 16.0%, above the latest five-year average. The drop in middle distillate stocks also came as a result of higher consumption, which increased by nearly 200 tb/d to average around 4.2 mb/d.

**Jet fuel oil inventories** fell by 2.1 mb to 42.1 mb in March, 1.8 mb, or 4.0%, down from the level seen the same time in 2016, but 2.5 mb, or 6.4%, above the seasonal norm. In contrast, **residual fuel stocks** rose slightly by 0.1 mb, ending March at 39.6 mb, 4.9 mb, or 11.1%, below the same period a year ago and 1.1 mb, or 2.8%, higher than the latest five-year average.



**Table 9 - 3: US onland commercial petroleum stocks, mb**

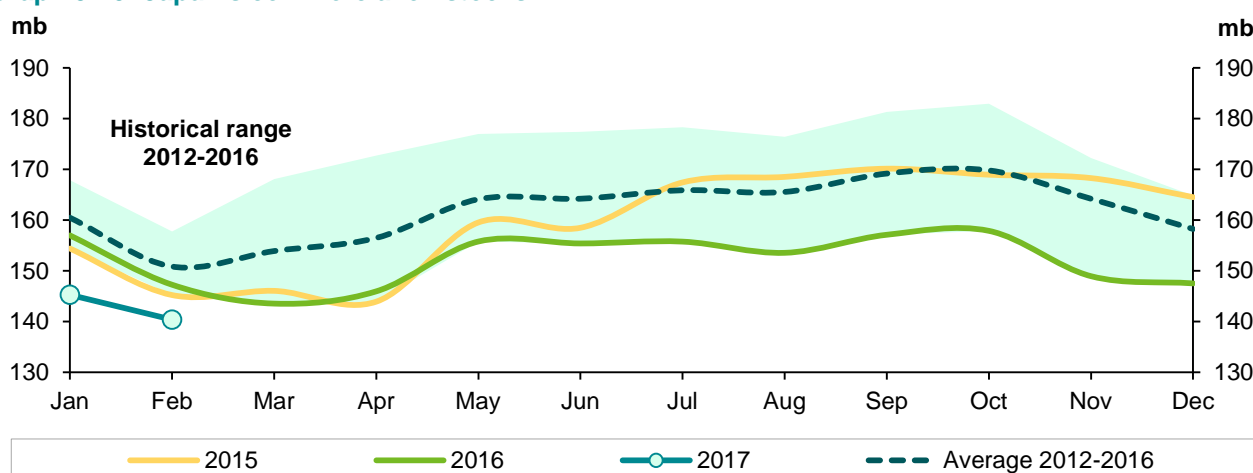
	Jan 17	Feb 17	Mar 17	Change Mar 17/Feb 17	Mar 16
<b>Crude oil</b>	<b>504.5</b>	<b>528.4</b>	<b>535.5</b>	<b>7.1</b>	<b>501.5</b>
Gasoline	260.0	249.3	239.1	-10.2	243.3
Distillate fuel	168.9	161.5	152.4	-9.2	160.6
Residual fuel oil	40.5	39.5	39.6	0.1	44.5
Jet fuel	42.4	44.2	42.1	-2.1	43.8
<b>Total</b>	<b>1,357.6</b>	<b>1,346.8</b>	<b>1,337.4</b>	<b>-9.4</b>	<b>1,326.3</b>
<b>SPR</b>	<b>695.1</b>	<b>694.8</b>	<b>692.1</b>	<b>-2.7</b>	<b>695.1</b>

Sources: US Energy Information Administration and OPEC Secretariat.

## Japan

In **Japan**, total **commercial oil stocks** fell by 4.9 mb in February, the fourth consecutive month to stand at 140.4 mb, which is, 6.9 mb, or 4.7%, less than the same time a year ago, and 10.5 mb, or 6.9%, below the five-year average. Within the components, crude and products fell by 2.3 mb and 2.6 mb, respectively.

**Graph 9 - 5: Japan's commercial oil stocks**



Source: Ministry of Economic, Trade and Industry of Japan.

Japanese **commercial crude oil stocks** fell in February to stand at 83.1 mb, which is 3.9 mb, or 4.5%, below the same period a year ago, and 4.7 mb, or 5.3%, below the seasonal norm. The fall was driven by higher crude throughputs, which increased by around 30 tb/d, or 0.7%, to average 3.57 mb/d. Higher crude imports limited further crude oil stock draws. Indeed, crude oil imports rose by 78 tb/d, or 2.3%, to stand at 3.54 mb/d.

Japan's **total product inventories** fell by 2.6 mb in February to stand at 57.3 mb. At this level, total product inventories stood at 3.0 mb, or 4.9%, lower than the same month the previous year, and 5.8 mb, or 9.2%, less than the seasonal norm. This stock draw came on the back of higher domestic product sales, which rose by more than 170 tb/d to average 3.49 mb/d. However, domestic sales remained 3.9% lower than the same month a year earlier. Within products, gasoline rose, while distillates witnessed a stock draw. Residual fuel remained unchanged.

**Gasoline stocks** rose in February by 0.3 mb to stand at 11.2 mb, which is 0.4 mb, or 3.3%, higher than the same time a year ago, but 1.1 mb, or 8.9%, below the latest five-year average. The build in gasoline stocks was driven by higher imports, which increased by more than double from the previous month.

**Distillate stocks** fell by 3.1 mb in February to stand at 24.0 mb. At this level, they stood at 0.1 mb, or 0.3%, higher than the same period a year ago, but 2.0 mb, or 7.8%, below the seasonal average. Within distillate components, jet fuel and kerosene fell by 12.3% and 23.9%, respectively, while gasoil rose by 5.6%. The fall in jet fuel stocks came mainly from higher domestic sales, which rose by 7.5%, while the fall in kerosene was driven by lower output, which decreased by 1.0%. The build in gasoil oil stocks could be attributed to higher output combined with an increase in imports.

**Total residual fuel oil** stocks remained unchanged in February to stand at 13.1 mb, which is 0.1 mb, or 1.0%, higher than a year ago, and 1.3 mb, or 9.3%, below the latest five-year average. Within fuel oil components, fuel oil A fell by 0.5%, while fuel B.C rose by 0.4%. The fall in fuel oil A was driven by higher domestic sales, which rose by 1.8%, while the build in fuel oil B.C was attributed to higher outputs.

**Table 9 - 4: Japan's commercial oil stocks\*, mb**

	<u>Dec 16</u>	<u>Jan 17</u>	<u>Feb 17</u>	<u>Change</u> <u>Feb 17/Jan 17</u>	<u>Feb 16</u>
<b>Crude oil</b>	<b>88.7</b>	<b>85.3</b>	<b>83.1</b>	<b>-2.3</b>	<b>87.0</b>
Gasoline	9.7	10.9	11.2	0.3	10.9
Naphtha	7.9	8.9	9.0	0.1	12.5
Middle distillates	27.8	27.1	24.0	-3.1	23.9
Residual fuel oil	13.4	13.0	13.1	0.0	12.9
<b>Total products</b>	<b>58.8</b>	<b>59.9</b>	<b>57.3</b>	<b>-2.6</b>	<b>60.3</b>
<b>Total**</b>	<b>147.5</b>	<b>145.3</b>	<b>140.4</b>	<b>-4.9</b>	<b>147.3</b>

Note: \* At the end of the month.

\*\* Includes crude oil and main products only.

Source: Ministry of Economy, Trade and Industry of Japan.

## China

The latest information for **China** showed **total commercial oil inventories** rose further by 18.2 mb in February, following a build of 15.2 mb in January, to stand at 396.2 mb. This is 12.2 mb lower than the same time one year ago. Within the components, crude fell by 3.2 mb, while product stocks rose by 21.4 mb.

**Table 9 - 5: China's commercial oil stocks, mb**

	<u>Dec 16</u>	<u>Jan 17</u>	<u>Feb 17</u>	<u>Change</u> <u>Feb 17/Jan 17</u>	<u>Feb 16</u>
<b>Crude oil</b>	<b>222.3</b>	<b>225.9</b>	<b>222.7</b>	<b>-3.2</b>	<b>238.8</b>
Gasoline	71.9	63.4	64.8	1.4	56.6
Diesel	49.1	68.3	88.6	20.3	95.8
Jet kerosene	19.6	20.4	20.1	-0.3	17.2
<b>Total products</b>	<b>140.5</b>	<b>152.1</b>	<b>173.5</b>	<b>21.4</b>	<b>169.6</b>
<b>Total</b>	<b>362.8</b>	<b>378.0</b>	<b>396.2</b>	<b>18.2</b>	<b>408.4</b>

Sources: China Oil and Gas Petrochemicals and OPEC Secretariat.

In February, **commercial crude stocks** fell by 3.2 mb, reversing the build of one month earlier. At 222.7 mb, they were 16.1 mb below the same time the previous year. This build could be mainly attributed to higher crude imports, as both domestic production and crude runs fell in February compared with January, due to the traditional Chinese New Year holiday.

In contrast, **total product stocks** in China rose by 21.4 mb in February to stand at 173.5 mb. They were 3.9 mb above the same time a year ago. Within products, the bulk of the build came from **diesel** followed by **gasoline**, while **kerosene** saw a slight stock draw.

**Diesel inventories** in February rose massively by 20.3 mb to stand at 88.6 mb, although this is still 7.2 mb lower than the same time one year earlier. This build could be attributed to lower demand. Gasoline also rose by 1.4 mb to stand at 64.8 mb, while kerosene stocks fell by 0.3 mb in February to end the month at 20.1 mb. At this level, kerosene stocks were 2.9 mb higher than this time a year ago.

## Singapore and Amsterdam-Rotterdam-Antwerp (ARA)

### Singapore

At the end of February, **product stocks** in **Singapore** rose by 3.8 mb to stand at 52.4 mb. At this level, they were 4.9 mb, or 8.5%, below the same period a year ago. Within products, fuel oil saw a large build, while light and middle distillates witnessed a stock draw.

**Residual fuel oil stocks** rose by 4.8 mb in February, the second monthly rise, to stand at 26.7 mb. At this level, they were 4.9 mb, or 8.5%, lower than the same time a year ago. The build was mainly attributed to lower marine bunker demand in the region.

In contrast, **light and middle distillate stocks** fell in February by 0.5 mb and 0.6 mb, respectively. At 12.6 mb, light distillates stood at 2.3 mb, or 15.1%, below the same time one year ago, while middle distillates ended February at 12.6 mb, which is 0.1 mb, or 0.4%, higher than the same period a year ago. The build in both products was driven by higher exports to the Singapore hub amid some improvement in demand.

**Residual fuel oil stocks** also rose by 1.2 mb in February ending the month at 21.8 mb. At this level, they are 0.5 mb, or 2.1%, lower than the same time a year ago. The build could be attributed to lower marine bunker demand in the region.

### Amsterdam-Rotterdam-Antwerp (ARA)

**Product stocks** in **ARA** rose by 5.6 mb in February to stand at 45.5 mb. At this level, they are 5.5 mb, or 10.7%, lower than at the same time a year ago. Within products, gasoline, gasoil and jet oil saw builds, while naphtha and fuel oil experienced stock draws.

**Gasoline inventories** rose by 0.7 mb, ending February at 9.6 mb, which is 0.4 mb, or around 4.1%, lower than the same month one year ago. This build could be attributed to lower demand in the region.

**Gasoil stocks** rose by 5.0 mb in February to stand at 24.4 mb. At this level, it stood at 1.8 mb, or 7.0%, below the same time a year ago.

In contrast, **fuel oil stocks** fell by 0.1 mb in February to stand at 4.6 mb, which is 2.8 mb, or nearly 38%, lower than the same time a year ago. This drop was mainly driven by lower imports to the ARA hub.

## Balance of Supply and Demand

Demand for OPEC crude in 2016 stood at 31.7 mb/d, which is 1.9 mb/d higher than 2015 levels. In 2017, the demand for OPEC crude is projected to reach 32.2 mb/d, around 0.6 mb/d higher than the previous year.

### Balance of supply and demand in 2016

**Demand for OPEC crude in 2016** stood at 31.7 mb/d, unchanged from the previous report and representing an increase of 1.9 mb/d from 2015 levels. Within the quarters, the first three quarters remained unchanged, while the fourth quarter was revised up by 0.1 mb/d. Comparing to the same quarters of last year, the first and second quarters increased by 1.3 mb/d and 2.5 mb/d, respectively, while the third and the fourth quarters grew by 2.2 mb/d and 1.7 mb/d, respectively.

**Table 10 - 1: Supply/demand balance for 2016, mb/d**

	2015	1Q16	2Q16	3Q16	4Q16	2016	Change 2016/15
<b>(a) World oil demand</b>	<b>93.68</b>	<b>94.07</b>	<b>94.05</b>	<b>95.94</b>	<b>96.12</b>	<b>95.05</b>	<b>1.38</b>
Non-OPEC supply	58.00	57.97	56.49	56.85	57.95	57.32	-0.69
OPEC NGLs and non-conventionals	5.94	6.05	6.08	6.11	6.11	6.09	0.14
<b>(b) Total non-OPEC supply and OPEC NGLs</b>	<b>63.95</b>	<b>64.02</b>	<b>62.57</b>	<b>62.95</b>	<b>64.06</b>	<b>63.40</b>	<b>-0.54</b>
<b>Difference (a-b)</b>	<b>29.73</b>	<b>30.05</b>	<b>31.48</b>	<b>32.99</b>	<b>32.06</b>	<b>31.65</b>	<b>1.92</b>
<b>OPEC crude oil production</b>	<b>31.54</b>	<b>31.97</b>	<b>32.19</b>	<b>32.66</b>	<b>33.14</b>	<b>32.49</b>	<b>0.95</b>
<b>Balance</b>	<b>1.81</b>	<b>1.92</b>	<b>0.71</b>	<b>-0.33</b>	<b>1.09</b>	<b>0.84</b>	<b>-0.97</b>

*Note: Totals may not add up due to independent rounding.*

*Source: OPEC Secretariat.*

### Balance of supply and demand in 2017

**Demand for OPEC crude in 2017** was revised down by 0.1 mb/d from the previous month. This downward adjustment came mainly from an upward revision in non-OPEC supply, as world oil demand remained unchanged. Within the quarters, the first quarter was revised up by 0.1 mb/d, while both the second and fourth quarters were revised down by 0.2 mb/d. The third quarter was revised down by 0.3 mb/d. Demand for OPEC crude is projected to increase this year by 0.6 mb/d to average 32.2 mb/d. Comparing to the same quarters of last year, the first and second quarters are expected to increase by 1.5 mb/d and 0.2 mb/d, respectively, while the third and fourth quarters are projected to increase by 0.1 mb/d and 0.4 mb/d, respectively.

## Balance of Supply and Demand

**Table 10 - 2: Supply/demand balance for 2017\*, mb/d**

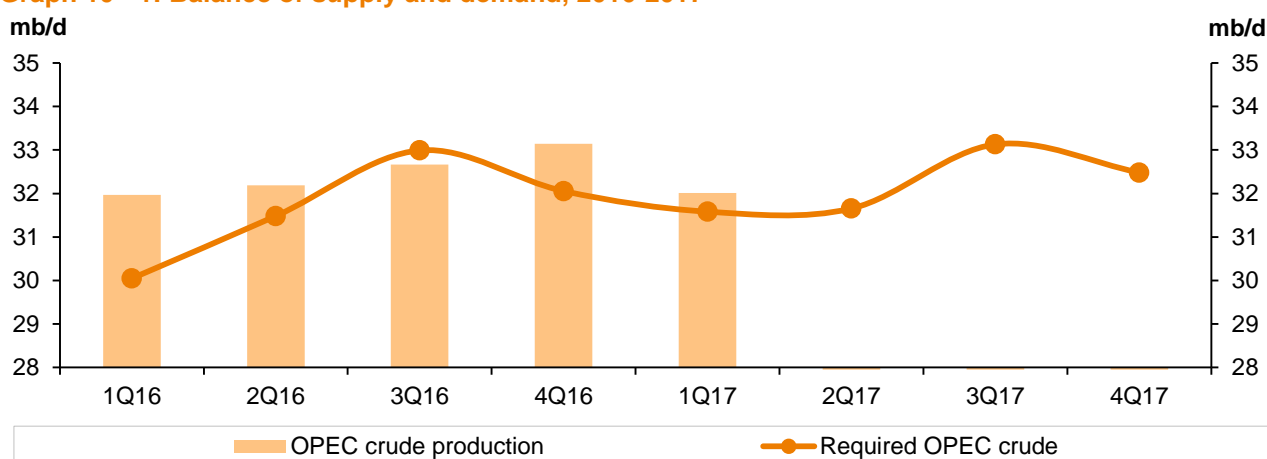
	2016	1Q17	2Q17	3Q17	4Q17	2017	Change 2017/16
<b>(a) World oil demand</b>	<b>95.05</b>	<b>95.39</b>	<b>95.25</b>	<b>97.22</b>	<b>97.40</b>	<b>96.32</b>	<b>1.27</b>
Non-OPEC supply	57.32	57.72	57.43	57.83	58.58	57.89	0.58
OPEC NGLs and non-conventionals	6.09	6.09	6.17	6.26	6.33	6.21	0.13
<b>(b) Total non-OPEC supply and OPEC NGLs</b>	<b>63.40</b>	<b>63.81</b>	<b>63.59</b>	<b>64.09</b>	<b>64.91</b>	<b>64.10</b>	<b>0.70</b>
<b>Difference (a-b)</b>	<b>31.65</b>	<b>31.58</b>	<b>31.65</b>	<b>33.13</b>	<b>32.48</b>	<b>32.22</b>	<b>0.57</b>
<b>OPEC crude oil production</b>	<b>32.49</b>	<b>32.01</b>					
<b>Balance</b>	<b>0.84</b>	<b>0.43</b>					

Note: \* 2017 = Forecast.

Totals may not add up due to independent rounding.

Source: OPEC Secretariat.

**Graph 10 - 1: Balance of supply and demand, 2016-2017\***



Note: \* 2017 = Forecast.

Source: OPEC Secretariat.

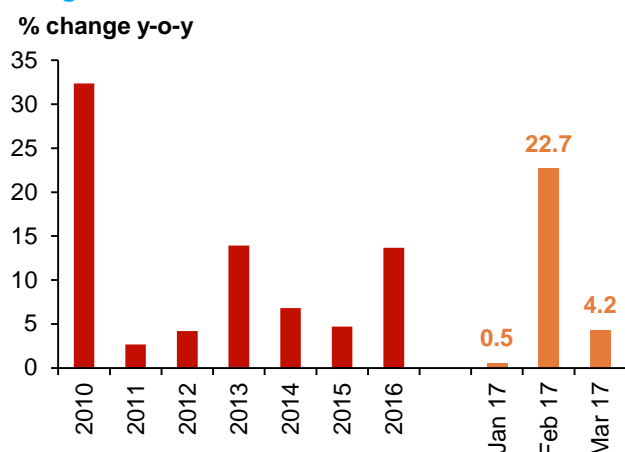
## Monthly Endnotes

### Chinese auto market continues to see healthy growth momentum in 2017

China's motor fleet has continued to see healthy growth in the first three months of 2017, according to the latest data from the China Association of Automobile Manufacturers (CAAM). China's automobile sales grew by 7.3% y-o-y in 1Q17, up 1.3 pp from 6.0% in the same period last year. The increase was driven mainly by a strong performance in February, which saw a rise of over 22.7% y-o-y following flat y-o-y growth January and a 4.2% rise in March.

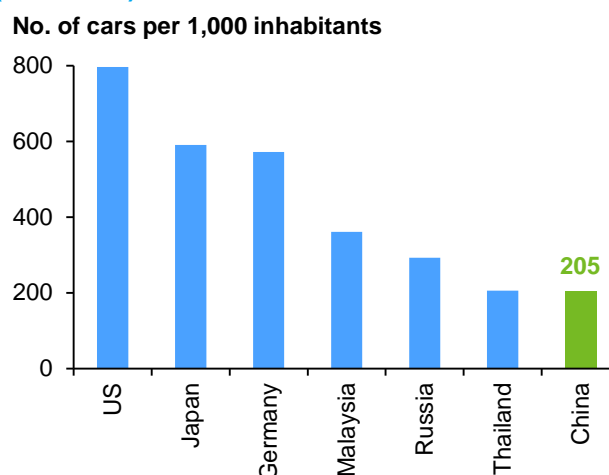
A key factor driving growth was sales of small-engine passenger cars, which continued to benefit from a sales tax reduction. In the first two months of the year, the sales of passenger cars with engine capacity of 1.6 litres and below increased 7.6% y-o-y, accounting for around 71% of the total passenger car sales.

**Graph 11 - 1: Chinese motor vehicle sales change**



Sources: China Association of Automobile Manufacturers, Haver Analytics and OPEC Secretariat.

**Graph 11 - 2: Average car ownership per capita (2014/2015)**



Sources: Haver Analytics and OPEC Secretariat.

Although better than expected, sales were still below the exceptionally high growth seen in 2016. Last year, China's motor fleet grew by close to 14% – almost tripling the previous year's increase (see **Graph 11-1**). In October 2015, the government reduced taxes on cars with small engines to 5% from 10% previously. With the tax reduction expected to expire, consumers stepped up purchases at the end of 2016 boosting y-o-y growth in small-engine car sales by around 21%. Instead, the government only reduced the cut by half. The tax is expected to return to 10% next year. In January, CAAM forecast 2017 sales would increase by 5% this year.

The importance of China in the global automobile market and particularly the oil usage in the road transportation sector is substantial both in terms of current status and potential developments. China is the world's largest auto market showing bullish growth during the latest years, while at the same time the car ownership per capita is at significantly lower levels as compared to other countries and regions (see **Graph 11-2**).

The Ministry of Commerce recently announced host of measures to 'revitalise' the country's auto market, which could help support new car sales. These include reducing the costs of starting a dealership or switching brands, facilitating used car sales across provinces and city borders, and allowing some unauthorised dealers to sell imported cars as part of an effort to limit the price of high end cars.

Additionally, electric car sales make up a growing segment of the Chinese market and are dominated by locally produced vehicles, which are cheaper to buy and have in general a shorter range than equivalent models from other companies. At the same time, they fit the specific driving patterns in China, which mainly take place within cities. In 2016, sales of battery powered vehicles increased by more than 65% y-o-y, but have seen a decline in growth in the first two months of this year. Under its 'Made in China 2025' strategy, the government has a sales volume target of 1 million units – or double current levels – by 2020.

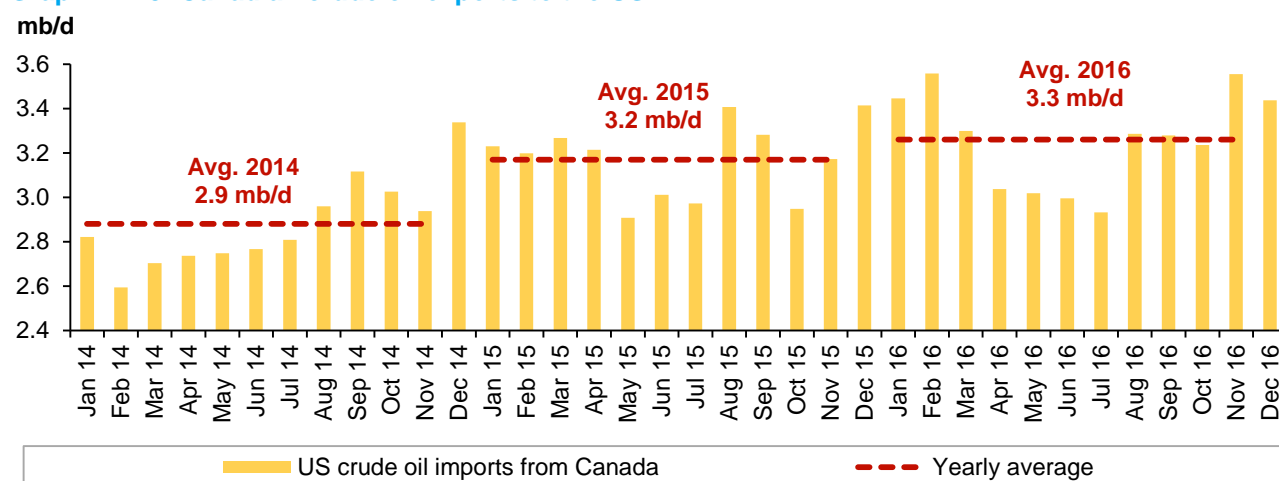
## Fire at Syncrude upgrader impacts flows of North American medium-sour grades

Reduced supplies of light synthetic crude from Canada – used for blending of oil sands production – have boosted the price of regional medium-sour grades, potentially impacting the recent trend in US exports of such crudes to Asia.

A fire has disrupted output since mid-March at Syncrude Canada’s 350 tb/d oil sands plant in Alberta, Canada. According to a company spokesman, the blaze was caused by a line failure that led to the leak of treated naphtha. The upgrader is expected to be offline for the rest of April.

The light synthetic crude produced by Syncrude (32° API) is used to dilute bitumen into a crude blend that can be moved via pipelines. The shortfall in synthetic crude for blending has forced some oil sand production to be halted. ConocoPhillips announced a 40% cut in production at its 140 tb/d oil sands facility in Surmont, Alberta, while Nexen Energy, a subsidiary of China National Offshore Oil Corporation (CNOOC), said it will cut output by close to 50% from its 40 tb/d Long Lake oil sands project.

**Graph 11 - 3: Canadian crude oil exports to the US**



Sources: US Energy Information Administration and OPEC Secretariat.

As a result of reduced flows from Canada, customers in the US have switched to domestic grades. This in turn has strengthened the US marker grade Mars sour, which had already been on the rise with the winding down of the maintenance season and the emergence of export opportunities to Asia.

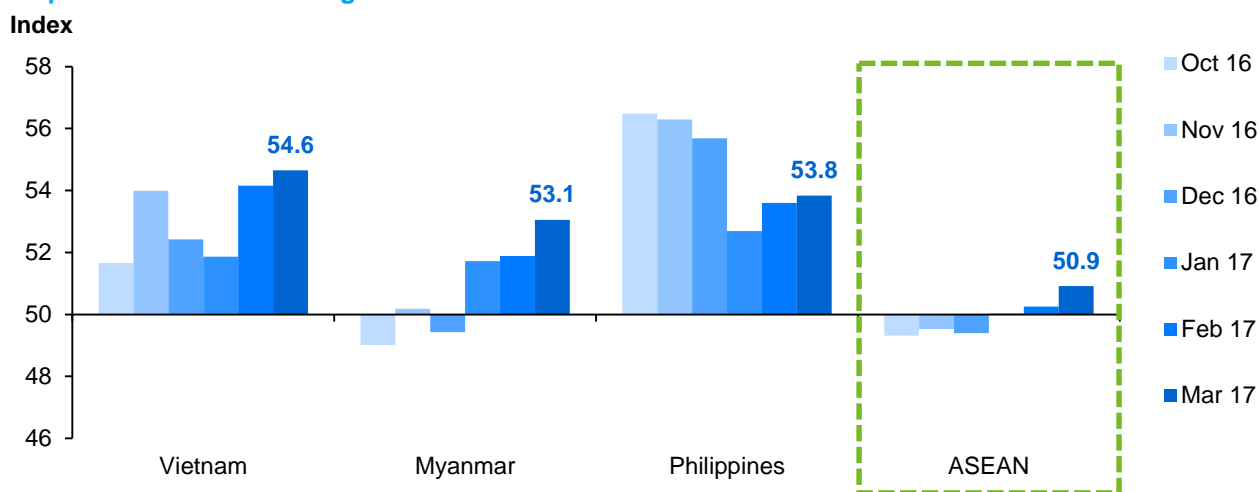
Since the start of the year, news reports indicate that some cargoes of heavy/medium crude from the USGC have been heading to China. These flows have been made possible by the lifting of the US export ban at the end of 2015, with shipments initially coming from light sweet grades, but more recently also including heavy crude. Around 600 tb of US Gulf Blend – a heavy crude blend made up of US and Canadian grades – were reportedly loaded in January and Sinopec was said to have purchased 1 mb of Mars for loading in April. China’s independent refiners in Shandong province are a key source of demand for medium- and heavy-grades. The tighter US market for such grades may limit these increased arbitrage flows in the coming months.

## Manufacturing activities broadly improving in Asia

All ASEAN<sup>2</sup> economies except Malaysia have recorded growth across their manufacturing sectors in March, according to the Nikkei ASEAN PMI. Vietnam remained the strongest performer, with its PMI figure reaching a 22-month high. The Philippines was next, with firms reporting another robust rate of expansion of activities. Malaysia saw a marginal decrease, but improved over the previous month.

Altogether, PMI in the ASEAN economies stood at 50.9 in March, up from 50.3 in February, representing the second successive monthly improvement. Though marginal, the rate of improvement was the highest in 32 months.

**Graph 11 - 4: Manufacturing PMIs in ASEAN**



Sources: Nikkei, IHS Markit, Haver Analytics and OPEC Secretariat.

Meanwhile, India's manufacturing sector activity improved for the third-straight month in March. The Nikkei India manufacturing PMI rose to a five-month high of 52.5 in March, up from 50.7 in February. Output and new orders accelerated, suggesting that the economy is recovering from the disruption of demonetisation policy implemented in November 2016.

In contrast, China's manufacturing PMI as compiled by Markit/Caixin stood at 51.2 in March, down from 51.7 in February, as slower growth in production and new orders dampened factory activity.

This still-positive reading in China, together with a pickup in activity in Asia more broadly, points to an improving economic situation in Asia. This would have a positive impact on demand for crude in this region in the coming months, at a time when refineries return from seasonal maintenance and begin preparing for the summer driving season.

<sup>2</sup> Note: ASEAN = Association of Southeast Asian Nations. Member states consist of Brunei, Cambodia, Indonesia, Laos, Malaysia, Myanmar, Philippines, Singapore, Thailand, and Vietnam



# Appendix

Table 12 - 1: World oil demand and supply balance, mb/d

	2013	2014	2015	1Q16	2Q16	3Q16	4Q16	2016	1Q17	2Q17	3Q17	4Q17	2017
<b>World demand</b>													
<b>OECD</b>	46.1	45.8	46.4	46.8	46.3	47.3	47.1	46.8	47.0	46.5	47.6	47.3	47.1
Americas	24.2	24.2	24.6	24.6	24.7	25.1	24.8	24.8	24.8	24.8	25.4	24.9	25.0
Europe	13.6	13.5	13.7	13.6	13.9	14.4	14.0	14.0	13.7	14.0	14.5	14.1	14.1
Asia Pacific	8.3	8.1	8.0	8.6	7.6	7.7	8.3	8.1	8.5	7.6	7.7	8.3	8.0
<b>DCs</b>	29.4	30.1	30.8	31.0	31.3	31.8	31.3	31.3	31.6	31.9	32.4	32.0	32.0
<b>FSU</b>	4.5	4.6	4.6	4.5	4.4	4.7	5.1	4.7	4.6	4.4	4.8	5.1	4.7
<b>Other Europe</b>	0.6	0.7	0.7	0.7	0.6	0.7	0.8	0.7	0.7	0.7	0.7	0.8	0.7
<b>China</b>	10.4	10.8	11.2	11.1	11.5	11.5	11.9	11.5	11.5	11.8	11.8	12.2	11.8
<b>(a) Total world demand</b>	<b>91.1</b>	<b>92.0</b>	<b>93.7</b>	<b>94.1</b>	<b>94.0</b>	<b>95.9</b>	<b>96.1</b>	<b>95.1</b>	<b>95.4</b>	<b>95.2</b>	<b>97.2</b>	<b>97.4</b>	<b>96.3</b>
<b>Non-OPEC supply</b>													
<b>OECD</b>	22.3	24.3	25.3	25.4	24.2	24.6	25.1	24.8	25.1	25.1	25.2	25.8	25.3
Americas	18.2	20.1	21.1	21.0	20.1	20.5	20.8	20.6	20.8	20.9	21.3	21.6	21.2
Europe	3.6	3.6	3.8	3.9	3.7	3.6	3.9	3.8	3.9	3.7	3.6	3.8	3.8
Asia Pacific	0.5	0.5	0.5	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
<b>DCs</b>	11.9	12.1	12.3	12.1	12.1	12.3	12.4	12.2	12.3	12.3	12.3	12.4	12.3
<b>FSU</b>	13.6	13.5	13.7	14.0	13.7	13.7	14.2	13.9	14.0	13.8	14.0	14.1	14.0
<b>Other Europe</b>	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
<b>China</b>	4.3	4.3	4.4	4.2	4.1	4.0	4.0	4.1	4.0	3.9	3.9	3.9	3.9
<b>Processing gains</b>	2.1	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2
<b>Total non-OPEC supply</b>	<b>54.2</b>	<b>56.5</b>	<b>58.0</b>	<b>58.0</b>	<b>56.5</b>	<b>56.8</b>	<b>58.0</b>	<b>57.3</b>	<b>57.7</b>	<b>57.4</b>	<b>57.8</b>	<b>58.6</b>	<b>57.9</b>
<b>OPEC NGLs + non-conventional oils</b>	5.6	5.8	5.9	6.1	6.1	6.1	6.1	6.1	6.1	6.2	6.3	6.3	6.2
<b>(b) Total non-OPEC supply and OPEC NGLs</b>	<b>59.8</b>	<b>62.3</b>	<b>63.9</b>	<b>64.0</b>	<b>62.6</b>	<b>63.0</b>	<b>64.1</b>	<b>63.4</b>	<b>63.8</b>	<b>63.6</b>	<b>64.1</b>	<b>64.9</b>	<b>64.1</b>
<b>OPEC crude oil production (secondary sources)</b>	30.5	30.3	31.5	32.0	32.2	32.7	33.1	32.5	32.0				
<b>Total supply</b>	90.3	92.6	95.5	96.0	94.8	95.6	97.2	95.9	95.8				
<b>Balance (stock change and miscellaneous)</b>	-0.7	0.7	1.8	1.9	0.7	-0.3	1.1	0.8	0.4				
<b>OECD closing stock levels, mb</b>													
Commercial	2,559	2,704	2,986	3,012	3,052	3,060	2,982	2,982					
SPR	1,584	1,580	1,587	1,593	1,591	1,594	1,598	1,598					
<b>Total</b>	<b>4,144</b>	<b>4,285</b>	<b>4,573</b>	<b>4,606</b>	<b>4,643</b>	<b>4,654</b>	<b>4,580</b>	<b>4,580</b>					
<b>Oil-on-water</b>	909	924	1,017	1,055	1,094	1,068	1,102	1,102					
<b>Days of forward consumption in OECD, days</b>													
Commercial onland stocks	55.9	58.3	63.7	65.1	64.6	65.0	63.4	63.3					
SPR	34.6	34.1	33.9	34.4	33.7	33.9	34.0	33.9					
<b>Total</b>	<b>90.4</b>	<b>92.4</b>	<b>97.6</b>	<b>99.6</b>	<b>98.2</b>	<b>98.9</b>	<b>97.4</b>	<b>97.3</b>					
<b>Memo items</b>													
<b>FSU net exports</b>	9.0	8.9	9.1	9.5	9.4	8.9	9.1	9.2	9.5	9.4	9.2	9.0	9.3
<b>(a) - (b)</b>	<b>31.2</b>	<b>29.7</b>	<b>29.7</b>	<b>30.0</b>	<b>31.5</b>	<b>33.0</b>	<b>32.1</b>	<b>31.7</b>	<b>31.6</b>	<b>31.7</b>	<b>33.1</b>	<b>32.5</b>	<b>32.2</b>

Note: Totals may not add up due to independent rounding.

Source: OPEC Secretariat.

Table 12 - 2: World oil demand/supply balance: changes from last month's table\*, mb/d

	2013	2014	2015	1Q16	2Q16	3Q16	4Q16	2016	1Q17	2Q17	3Q17	4Q17	2017
<b>World demand</b>													
<b>OECD</b>	-	-	-	-	-	-	-	-	-	-	-	-	-
Americas	-	-	-	-	-	-	-	-	-	-	-	-	-
Europe	-	-	-	-	-	-	-	-	-	-	-	-	-
Asia Pacific	-	-	-	-	-	-	-	-	-	-	-	-	-
<b>DCs</b>	-	-	-	-	-	-	-	-	-0.1	-	-	-	-
<b>FSU</b>	-	-	-	-	-	-	-	-	-	-	-	-	-
<b>Other Europe</b>	-	-	-	-	-	-	-	-	-	-	-	-	-
<b>China</b>	-	-	-	-	-	-	-	-	0.1	-	-	-	-
<b>(a) Total world demand</b>	-	-	-	-	-	-	-	-	-	-	-	-	-
<b>World demand growth</b>	-	-	-	-	-	-	-	-	-	-	-	-	-
<b>Non-OPEC supply</b>													
<b>OECD</b>	-	-	-	-	-	-	-	-	-0.1	0.2	0.2	0.2	0.1
Americas	-	-	-	-	-	-	-	-	-0.1	0.2	0.2	0.2	0.1
Europe	-	-	-	-	-	-	-	-	-	-	-	-	-
Asia Pacific	-	-	-	-	-	-	-	-	-	-	-	-	-
<b>DCs</b>	-	-	-	-	-	-	-	-	-	-	-	-	-
<b>FSU</b>	-	-	-	-	-	-	-	-	-	-	0.1	0.1	0.1
<b>Other Europe</b>	-	-	-	-	-	-	-	-	-	-	-	-	-
<b>China</b>	-	-	-	-	-	-	-	-	-	-	-	-	-
<b>Processing gains</b>	-	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total non-OPEC supply</b>	-	-	-	-	-	-	-0.1	-	-0.1	0.2	0.3	0.2	0.1
<b>Total non-OPEC supply growth</b>	-	-	-	-	-	-	-0.1	-	-0.1	0.2	0.3	0.3	0.2
<b>OPEC NGLs + non-conventionals</b>	-	-	-	-	-	-	-	-	-	-	-	-	-
<b>(b) Total non-OPEC supply and OPEC NGLs</b>	-	-	-	-	-	-	-0.1	-	-0.1	0.2	0.3	0.2	0.1
<b>OPEC crude oil production (secondary sources)</b>	-	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total supply</b>	-	-	-	-	-	-	-	-	-	-	-	-	-
<b>Balance (stock change and miscellaneous)</b>	-	-	-	-	-	-	-	-	-	-	-	-	-
<b>OECD closing stock levels (mb)</b>													
Commercial	-	-	-	-	-	1	-4	-4					
SPR	-	-	-	-	-	-	-3	-3					
<b>Total</b>	-	-	-	-	-	1	-7	-7					
<b>Oil-on-water</b>	-	-	-	-	-	-	-	-					
<b>Days of forward consumption in OECD</b>													
Commercial onland stocks	-	-	-	-	-	-	-	-					
SPR	-	-	-	-	-	-	-	-					
<b>Total</b>	-	-	-	-	-	-	-	-					
<b>Memo items</b>													
<b>FSU net exports</b>	-	-	-	-	-	-	-	-	-	-	0.1	0.1	0.1
<b>(a) - (b)</b>	-	-	-	-	-	-	0.1	-	0.1	-0.2	-0.3	-0.2	-0.1

Note: \* This compares Table 12 - 1 in this issue of the MOMR with Table 12 - 1 in the March 2017 issue.

This table shows only where changes have occurred.

Source: OPEC Secretariat.

Table 12 - 3: OECD oil stocks and oil on water at the end of period

	<u>2014</u>	<u>2015</u>	<u>2016</u>	<u>4Q14</u>	<u>1Q15</u>	<u>2Q15</u>	<u>3Q15</u>	<u>4Q15</u>	<u>1Q16</u>	<u>2Q16</u>	<u>3Q16</u>	<u>4Q16</u>
<b>Closing stock levels, mb</b>												
<b>OECD onland commercial</b>	<b>2,704</b>	<b>2,986</b>	<b>2,982</b>	<b>2,704</b>	<b>2,789</b>	<b>2,878</b>	<b>2,954</b>	<b>2,986</b>	<b>3,012</b>	<b>3,052</b>	<b>3,060</b>	<b>2,982</b>
Americas	1,414	1,561	1,600	1,414	1,458	1,508	1,542	1,561	1,589	1,609	1,617	1,600
Europe	885	990	968	885	939	940	967	990	1,002	1,006	992	968
Asia Pacific	405	435	414	405	392	430	445	435	421	438	450	414
<b>OECD SPR</b>	<b>1,580</b>	<b>1,587</b>	<b>1,598</b>	<b>1,580</b>	<b>1,583</b>	<b>1,585</b>	<b>1,579</b>	<b>1,587</b>	<b>1,593</b>	<b>1,591</b>	<b>1,594</b>	<b>1,598</b>
Americas	693	697	697	693	693	696	697	697	697	697	697	697
Europe	470	473	480	470	470	471	467	473	477	473	476	480
Asia Pacific	417	416	421	417	420	418	415	416	419	421	421	421
<b>OECD total</b>	<b>4,285</b>	<b>4,573</b>	<b>4,580</b>	<b>4,285</b>	<b>4,372</b>	<b>4,463</b>	<b>4,533</b>	<b>4,573</b>	<b>4,606</b>	<b>4,643</b>	<b>4,654</b>	<b>4,580</b>
<b>Oil-on-water</b>	<b>924</b>	<b>1,017</b>	<b>1,102</b>	<b>924</b>	<b>864</b>	<b>916</b>	<b>924</b>	<b>1,017</b>	<b>1,055</b>	<b>1,094</b>	<b>1,068</b>	<b>1,102</b>
<b>Days of forward consumption in OECD, days</b>												
<b>OECD onland commercial</b>	<b>58</b>	<b>56</b>	<b>63</b>	<b>58</b>	<b>61</b>	<b>61</b>	<b>64</b>	<b>64</b>	<b>65</b>	<b>65</b>	<b>65</b>	<b>63</b>
Americas	55	53	65	58	60	60	63	64	64	64	65	65
Europe	67	65	71	66	69	66	70	73	72	70	71	71
Asia Pacific	49	48	48	47	52	56	54	51	55	57	54	48
<b>OECD SPR</b>	<b>34</b>	<b>35</b>	<b>34</b>	<b>34</b>	<b>35</b>	<b>34</b>	<b>34</b>	<b>34</b>	<b>34</b>	<b>34</b>	<b>34</b>	<b>34</b>
Americas	29	29	28	28	28	28	28	28	28	28	28	28
Europe	32	35	35	35	35	33	34	35	34	33	34	35
Asia Pacific	50	51	49	48	55	54	51	49	55	54	51	49
<b>OECD total</b>	<b>91</b>	<b>90</b>	<b>97</b>	<b>92</b>	<b>96</b>	<b>95</b>	<b>98</b>	<b>98</b>	<b>100</b>	<b>98</b>	<b>99</b>	<b>97</b>

Sources: Argus Media, Euroilstock, IEA, JODI, METI, OPEC Secretariat and US Energy Information Administration.

Table 12 - 4: Non-OPEC supply and OPEC natural gas liquids, mb/d

							Change					Change	
	2013	2014	2015	3Q16	4Q16	2016	16/15	1Q17	2Q17	3Q17	4Q17	2017	17/16
US	11.2	13.0	14.0	13.4	13.6	13.6	-0.4	13.8	14.1	14.3	14.5	14.2	0.5
Canada	4.0	4.3	4.4	4.6	4.9	4.5	0.1	4.7	4.5	4.7	4.9	4.7	0.2
Mexico	2.9	2.8	2.6	2.5	2.4	2.5	-0.1	2.3	2.3	2.3	2.3	2.3	-0.2
<b>OECD Americas*</b>	<b>18.2</b>	<b>20.1</b>	<b>21.1</b>	<b>20.5</b>	<b>20.8</b>	<b>20.6</b>	<b>-0.5</b>	<b>20.8</b>	<b>20.9</b>	<b>21.3</b>	<b>21.6</b>	<b>21.2</b>	<b>0.6</b>
Norway	1.8	1.9	1.9	1.9	2.1	2.0	0.0	2.0	1.9	1.9	2.0	2.0	0.0
UK	0.9	0.9	1.0	1.0	1.0	1.0	0.1	1.1	1.0	0.9	1.0	1.0	0.0
Denmark	0.2	0.2	0.2	0.1	0.1	0.1	0.0	0.1	0.1	0.1	0.1	0.1	0.0
Other OECD Europe	0.7	0.7	0.7	0.6	0.7	0.6	-0.1	0.7	0.6	0.6	0.6	0.7	0.0
<b>OECD Europe</b>	<b>3.6</b>	<b>3.6</b>	<b>3.8</b>	<b>3.6</b>	<b>3.9</b>	<b>3.8</b>	<b>0.0</b>	<b>3.9</b>	<b>3.7</b>	<b>3.6</b>	<b>3.8</b>	<b>3.8</b>	<b>-0.1</b>
Australia	0.4	0.4	0.4	0.4	0.3	0.3	0.0	0.3	0.4	0.4	0.3	0.3	0.0
Other Asia Pacific	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.1	0.1	0.1	0.1	0.1	0.0
<b>OECD Asia Pacific</b>	<b>0.5</b>	<b>0.5</b>	<b>0.5</b>	<b>0.4</b>	<b>0.4</b>	<b>0.4</b>	<b>0.0</b>	<b>0.4</b>	<b>0.4</b>	<b>0.4</b>	<b>0.4</b>	<b>0.4</b>	<b>0.0</b>
<b>Total OECD</b>	<b>22.3</b>	<b>24.3</b>	<b>25.3</b>	<b>24.6</b>	<b>25.1</b>	<b>24.8</b>	<b>-0.5</b>	<b>25.1</b>	<b>25.1</b>	<b>25.2</b>	<b>25.8</b>	<b>25.3</b>	<b>0.5</b>
Brunei	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.1	0.1	0.1	0.1	0.1	0.0
India	0.9	0.9	0.9	0.9	0.8	0.9	0.0	0.9	0.9	0.9	0.9	0.9	0.0
Indonesia	0.9	0.9	0.9	0.9	0.9	0.9	0.1	0.9	0.9	0.9	0.8	0.9	-0.1
Malaysia	0.6	0.7	0.7	0.7	0.7	0.7	0.0	0.8	0.7	0.7	0.7	0.7	0.0
Thailand	0.5	0.5	0.5	0.5	0.5	0.5	0.0	0.5	0.5	0.5	0.5	0.5	0.0
Vietnam	0.3	0.3	0.4	0.3	0.3	0.3	0.0	0.3	0.3	0.3	0.3	0.3	0.0
Asia others	0.2	0.2	0.2	0.2	0.2	0.2	0.0	0.2	0.3	0.3	0.3	0.3	0.0
<b>Other Asia*</b>	<b>3.6</b>	<b>3.6</b>	<b>3.7</b>	<b>3.7</b>	<b>3.7</b>	<b>3.7</b>	<b>0.0</b>	<b>3.7</b>	<b>3.7</b>	<b>3.7</b>	<b>3.6</b>	<b>3.7</b>	<b>0.0</b>
Argentina	0.7	0.7	0.7	0.7	0.7	0.7	0.0	0.7	0.7	0.7	0.7	0.7	0.0
Brazil	2.6	2.9	3.1	3.3	3.3	3.1	0.1	3.3	3.3	3.4	3.4	3.3	0.2
Colombia	1.0	1.0	1.0	0.9	0.9	0.9	-0.1	0.9	0.9	0.8	0.9	0.9	0.0
Trinidad & Tobago	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.1	0.1	0.1	0.1	0.1	0.0
Latin America others	0.3	0.3	0.3	0.3	0.3	0.3	0.0	0.3	0.3	0.3	0.3	0.3	0.0
<b>Latin America</b>	<b>4.8</b>	<b>5.0</b>	<b>5.2</b>	<b>5.2</b>	<b>5.2</b>	<b>5.1</b>	<b>-0.1</b>	<b>5.2</b>	<b>5.2</b>	<b>5.2</b>	<b>5.3</b>	<b>5.3</b>	<b>0.1</b>
Bahrain	0.2	0.2	0.2	0.2	0.2	0.2	0.0	0.2	0.2	0.2	0.2	0.2	0.0
Oman	0.9	0.9	1.0	1.0	1.0	1.0	0.0	1.0	1.0	1.0	1.0	1.0	0.0
Syria	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Yemen	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
<b>Middle East</b>	<b>1.4</b>	<b>1.3</b>	<b>1.3</b>	<b>1.3</b>	<b>1.3</b>	<b>1.3</b>	<b>0.0</b>	<b>1.2</b>	<b>1.2</b>	<b>1.2</b>	<b>1.2</b>	<b>1.2</b>	<b>-0.1</b>
Chad	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.1	0.1	0.1	0.1	0.1	0.0
Congo	0.3	0.3	0.3	0.3	0.3	0.3	0.0	0.3	0.3	0.3	0.4	0.3	0.0
Egypt	0.7	0.7	0.7	0.7	0.7	0.7	0.0	0.7	0.7	0.7	0.7	0.7	0.0
Equatorial Guinea	0.3	0.3	0.3	0.3	0.3	0.3	0.0	0.3	0.3	0.3	0.3	0.3	0.0
South Africa	0.2	0.1	0.1	0.1	0.1	0.1	0.0	0.1	0.1	0.1	0.1	0.1	0.0
Sudans	0.2	0.3	0.3	0.3	0.3	0.3	0.0	0.3	0.3	0.3	0.3	0.3	0.0
Africa other	0.3	0.3	0.3	0.3	0.4	0.3	0.0	0.3	0.3	0.3	0.4	0.3	0.0
<b>Africa</b>	<b>2.1</b>	<b>2.1</b>	<b>2.1</b>	<b>2.1</b>	<b>2.1</b>	<b>2.1</b>	<b>0.0</b>	<b>2.1</b>	<b>2.1</b>	<b>2.2</b>	<b>2.2</b>	<b>2.2</b>	<b>0.1</b>
<b>Total DCs</b>	<b>11.9</b>	<b>12.1</b>	<b>12.3</b>	<b>12.3</b>	<b>12.4</b>	<b>12.2</b>	<b>-0.1</b>	<b>12.3</b>	<b>12.3</b>	<b>12.3</b>	<b>12.4</b>	<b>12.3</b>	<b>0.1</b>
<b>FSU</b>	<b>13.6</b>	<b>13.5</b>	<b>13.7</b>	<b>13.7</b>	<b>14.2</b>	<b>13.9</b>	<b>0.2</b>	<b>14.0</b>	<b>13.8</b>	<b>14.0</b>	<b>14.1</b>	<b>14.0</b>	<b>0.1</b>
Russia	10.6	10.7	10.8	11.0	11.3	11.1	0.3	11.2	11.0	11.2	11.2	11.1	0.0
Kazakhstan	1.6	1.6	1.6	1.4	1.7	1.6	0.0	1.7	1.7	1.7	1.7	1.7	0.1
Azerbaijan	0.9	0.9	0.9	0.8	0.8	0.8	0.0	0.8	0.8	0.8	0.8	0.8	-0.1
FSU others	0.4	0.4	0.4	0.4	0.4	0.4	0.0	0.4	0.4	0.4	0.4	0.4	0.0
<b>Other Europe</b>	<b>0.1</b>	<b>0.1</b>	<b>0.1</b>	<b>0.1</b>	<b>0.1</b>	<b>0.1</b>	<b>0.0</b>	<b>0.1</b>	<b>0.1</b>	<b>0.1</b>	<b>0.1</b>	<b>0.1</b>	<b>0.0</b>
<b>China</b>	<b>4.3</b>	<b>4.3</b>	<b>4.4</b>	<b>4.0</b>	<b>4.0</b>	<b>4.1</b>	<b>-0.3</b>	<b>4.0</b>	<b>3.9</b>	<b>3.9</b>	<b>3.9</b>	<b>3.9</b>	<b>-0.2</b>
<b>Non-OPEC production</b>	<b>52.1</b>	<b>54.3</b>	<b>55.8</b>	<b>54.7</b>	<b>55.8</b>	<b>55.1</b>	<b>-0.7</b>	<b>55.5</b>	<b>55.2</b>	<b>55.6</b>	<b>56.4</b>	<b>55.7</b>	<b>0.6</b>
Processing gains	2.1	2.2	2.2	2.2	2.2	2.2	0.0	2.2	2.2	2.2	2.2	2.2	0.0
<b>Non-OPEC supply</b>	<b>54.2</b>	<b>56.5</b>	<b>58.0</b>	<b>56.8</b>	<b>58.0</b>	<b>57.3</b>	<b>-0.7</b>	<b>57.7</b>	<b>57.4</b>	<b>57.8</b>	<b>58.6</b>	<b>57.9</b>	<b>0.6</b>
OPEC NGL	5.4	5.6	5.7	5.8	5.8	5.8	0.1	5.9	5.9	6.0	6.1	6.0	0.2
OPEC													
non-conventional	0.2	0.3	0.3	0.3	0.3	0.3	0.0	0.2	0.2	0.3	0.3	0.2	0.0
<b>OPEC (NGL+NCF)</b>	<b>5.6</b>	<b>5.8</b>	<b>5.9</b>	<b>6.1</b>	<b>6.1</b>	<b>6.1</b>	<b>0.1</b>	<b>6.1</b>	<b>6.2</b>	<b>6.3</b>	<b>6.3</b>	<b>6.2</b>	<b>0.1</b>
<b>Non-OPEC &amp; OPEC (NGL+NCF)</b>	<b>59.8</b>	<b>62.3</b>	<b>63.9</b>	<b>63.0</b>	<b>64.1</b>	<b>63.4</b>	<b>-0.5</b>	<b>63.8</b>	<b>63.6</b>	<b>64.1</b>	<b>64.9</b>	<b>64.1</b>	<b>0.7</b>

Note: \* OECD Americas includes Chile.

Totals may not add up due to independent rounding.

Source: OPEC Secretariat.

Table 12 - 5: World rig count, units

	Change										
	2014	2015	2016	2016/15	2Q16	3Q16	4Q16	1Q17	Feb 17	Mar 17	Mar/Feb
US	1,862	977	509	-468	420	479	586	739	744	789	45
Canada	380	192	131	-61	49	122	180	299	342	253	-89
Mexico	86	52	26	-26	22	25	19	17	16	18	2
OECD Americas	2,327	1,221	665	-556	490	626	785	1,054	1,102	1,060	-42
Norway	17	17	17	-1	17	18	13	14	16	15	-1
UK	16	14	9	-5	9	9	9	9	11	8	-3
OECD Europe	145	117	96	-21	92	94	94	100	107	94	-13
OECD Asia Pacific	26	17	7	-11	6	5	6	14	14	13	-1
<b>Total OECD</b>	<b>2,499</b>	<b>1,355</b>	<b>768</b>	<b>-587</b>	<b>588</b>	<b>724</b>	<b>885</b>	<b>1,168</b>	<b>1,223</b>	<b>1,167</b>	<b>-56</b>
Other Asia*	228	202	180	-22	178	185	181	184	182	185	3
Latin America	172	145	68	-77	62	64	64	61	60	64	4
Middle East	108	102	88	-14	92	85	75	74	72	78	6
Africa	47	30	18	-12	19	15	17	16	16	16	0
<b>Total DCs</b>	<b>555</b>	<b>479</b>	<b>354</b>	<b>-126</b>	<b>351</b>	<b>349</b>	<b>337</b>	<b>335</b>	<b>330</b>	<b>343</b>	<b>13</b>
<b>Non-OPEC rig count</b>	<b>3,053</b>	<b>1,834</b>	<b>1,122</b>	<b>-712</b>	<b>939</b>	<b>1,073</b>	<b>1,223</b>	<b>1,503</b>	<b>1,553</b>	<b>1,510</b>	<b>-43</b>
Algeria	48	51	54	3	54	55	53	51	50	51	1
Angola	15	11	6	-5	9	4	3	3	3	2	-1
Ecuador	24	12	4	-8	3	5	6	7	7	7	0
Gabon	7	4	1	-3	1	0	0	0	0	0	0
Iran**	54	54	57	3	59	60	61	61	61	61	0
Iraq**	79	52	43	-9	42	39	41	41	40	43	3
Kuwait**	38	47	44	-2	42	47	46	55	59	54	-5
Libya**	10	3	1	-2	1	1	1	1	1	1	0
Nigeria	34	30	25	-5	25	24	23	27	26	29	3
Qatar	10	8	8	0	7	7	10	11	11	11	0
Saudi Arabia	134	155	156	1	154	155	157	152	151	150	-1
UAE	34	42	51	8	50	51	52	50	49	50	1
Venezuela	116	110	100	-10	103	93	92	95	96	96	0
<b>OPEC rig count</b>	<b>603</b>	<b>578</b>	<b>549</b>	<b>-29</b>	<b>551</b>	<b>542</b>	<b>546</b>	<b>553</b>	<b>554</b>	<b>555</b>	<b>1</b>
<b>World rig count***</b>	<b>3,656</b>	<b>2,412</b>	<b>1,670</b>	<b>-742</b>	<b>1,490</b>	<b>1,615</b>	<b>1,769</b>	<b>2,056</b>	<b>2,107</b>	<b>2,065</b>	<b>-42</b>
<i>of which:</i>											
Oil	2,795	1,727	1,170	-557	1,043	1,135	1,235	1,446	1,489	1,473	-16
Gas	743	563	370	-193	315	343	400	477	485	466	-19
Others	95	100	111	11	112	119	116	115	114	107	-7

Note: \* Other Asia includes Indonesia.

\*\* Estimated data when Baker Hughes Incorporated did not reported the data.

\*\*\* Data excludes China and FSU.

Totals may not add up due to independent rounding.

Sources: Baker Hughes Incorporated and OPEC Secretariat's estimates.

# Glossary of Terms

## Abbreviations

b	barrels
b/d	barrels per day
bp	basis points
bb	billion barrels
bcf	billion cubic feet
cu m	cubic metres
mb	million barrels
mb/d	million barrels per day
mmbtu	million British thermal units
mn	million
m-o-m	month-on-month
q-o-q	quarter-on-quarter
pp	percentage points
tb/d	thousand barrels per day
tcf	trillion cubic feet
y-o-y	year-on-year
y-t-d	year-to-date

## Acronyms

ARA	Amsterdam-Rotterdam-Antwerp
BoE	Bank of England
BoJ	Bank of Japan
BOP	Balance of payments
BRIC	Brazil, Russia, India and China
CAPEX	capital expenditures
CFTC	Commodity Futures Trading Commission
CIF	cost, insurance and freight
CPI	consumer price index
DCs	developing countries
DUC	drilled, but uncompleted (oil well)
ECB	European Central Bank
EIA	US Energy Information Administration
Emirates NBD	Emirates National Bank of Dubai
EMs	emerging markets
EV	electric vehicle
FAI	fixed asset investment
FCC	fluid catalytic cracking
FDI	foreign direct investment
Fed	US Federal Reserve
FID	final investment decision
FOB	free on board
FPSO	floating production storage and offloading
FSU	Former Soviet Union
FX	Foreign Exchange
FY	fiscal year
GDP	gross domestic product
GFCF	gross fixed capital formation
GoM	Gulf of Mexico
GTLs	gas-to-liquids
HH	Henry Hub
HSFO	high-sulphur fuel oil
ICE	Intercontinental Exchange
IEA	International Energy Agency
IMF	International Monetary Fund
IOCs	international oil companies
ISM	Institute of Supply Management
LIBOR	London inter-bank offered rate
LLS	Light Louisiana Sweet
LNG	liquefied natural gas
LPG	liquefied petroleum gas
LR	long-range (vessel)
LSFO	low-sulphur fuel oil
MCs	(OPEC) Member Countries
MED	Mediterranean
MENA	Middle East/North Africa
MOMR	(OPEC) Monthly Oil Market Report
MPV	multi-purpose vehicle
MR	medium-range or mid-range (vessel)



## Glossary of Terms

NBS	National Bureau of Statistics
NGLs	natural gas liquids
NPC	National People's Congress (China)
NWE	Northwest Europe
NYMEX	New York Mercantile Exchange
OECD	Organisation for Economic Co-operation and Development
OPEX	operational expenditures
OIV	total open interest volume
ORB	OPEC Reference Basket
PADD	Petroleum Administration for Defense Districts
PBoC	People's Bank of China
PMI	purchasing managers' index
PPI	producer price index
RBI	Reserve Bank of India
REER	real effective exchange rate
ROI	return on investment
SAAR	seasonally-adjusted annualized rate
SIAM	Society of Indian Automobile Manufacturers
SRFO	straight-run fuel oil
SUV	sports utility vehicle
ULCC	ultra-large crude carrier
ULSD	ultra-low sulphur diesel
USEC	US East Coast
USGC	US Gulf Coast
USWC	US West Coast
VGO	vacuum gasoil
VLCC	very large crude carriers
WPI	wholesale price index
WS	Worldscale
WTI	West Texas Intermediate
WTS	West Texas Sour

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## OPEC Basket average price

US\$/b



**down 3.05 in March**

March 2017	50.32
February 2017	53.37
<b>Year-to-date</b>	<b>51.95</b>

## March OPEC crude production

mb/d, according to secondary sources



**down 0.15 in March**

March 2017	31.93
February 2017	32.08

## Economic growth rate

per cent

	World	OECD	US	Japan	Euro-zone	China	India
<b>2016</b>	3.0	1.8	1.6	1.0	1.7	6.7	7.5
<b>2017</b>	3.3	1.9	2.2	1.2	1.6	6.3	7.0

## Supply and demand

mb/d

<b>2016</b>		<b>16/15</b>	<b>2017</b>		<b>17/16</b>
World demand	95.1	1.4	World demand	96.3	1.3
Non-OPEC supply	57.3	-0.7	Non-OPEC supply	57.9	0.6
OPEC NGLs	6.1	0.1	OPEC NGLs	6.2	0.1
<b>Difference</b>	<b>31.7</b>	<b>1.9</b>	<b>Difference</b>	<b>32.2</b>	<b>0.6</b>

## OECD commercial stocks

mb

	<b>Dec 16</b>	<b>Jan 17</b>	<b>Feb 17</b>	<b>Feb 17/ Jan 17</b>	<b>Feb 16</b>
Crude oil	1,484	1,530	1,546	16.3	1,499
Products	1,498	1,486	1,441	-44.6	1,522
<b>Total</b>	<b>2,982</b>	<b>3,015</b>	<b>2,987</b>	<b>-28.3</b>	<b>3,021</b>
Days of forward cover	63.3	63.9	64.2	0.3	65.1

Next report to be issued on 11 May 2017.