



**CAMPYK**  
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**RESEARCH & KNOWLEDGE  
MANAGEMENT**

**OIL & GAS INDUSTRY**

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## 1. Key highlights

- Global economic growth remains essential to the oil market outlook. Globally a higher economic growth rate is expected in 2017, compared to 2016. Last year, global GDP growth is estimated to be 2.3-3.1%, rising to 2.7-3.4% in 2017. There is currently little evidence to suggest that economic activity is sufficiently robust to deliver higher oil demand growth, and any stimulus that might have been provided at the end of 2015 and in the early part of 2016 when crude oil prices fell below USD30pb is now in the past.
- Oil demand is expected to rise by 1.19mln bpd to 95.81mln bpd on average in 2017 (2016: 94.62mln bpd), on the back of colder weather conditions and stronger car sales in Europe, positive expectations on the petrochemical sector of Asia Pacific. On the supply side, widespread implementation of the OPEC and non-OPEC cuts helped push oil prices to 14-month highs of nearly USD58.2pb in January. OPEC producers have collectively reduced their output by nearly 1.12mln bpd, just 4% lower than the 1.17mln bpd cut target agreed as part of the group's November production restraint plan. Preliminary results for February showed that the OPEC's oil output declined for a second month, showing the exporter group has boosted already strong compliance to around 94%.
- In January, Kazakhstan reduced its crude production to about 7.12mln tons or 1.75mln bpd from 7.23mln tons or 1.77mln bpd in December 2016. Output figures given by the energy minister suggest it has not yet achieved its target. Kazakhstan's January production at 1.75mln bpd, appears to be 10,000 bpd lower than the November 2016 baseline of 1.76mln bpd, from which the country agreed to lower its output by 20,000 bpd in January-June 2017. According to preliminary results, in February Kazakhstan reduced its oil output to about 6.59mln ton or 1.79mln bpd.
- Kazakhstan's energy ministry forecasts that the country's crude and condensate production will pick up by nearly 4% this year to 81mln tons, with exports also rising by 5% to 65mln tons. The total figure includes an expected 5mln tons from the Kashagan field. The 5mln tons figure given for Kashagan production in the new forecast is lower than previous indications from the energy ministry of up to 9mln tons for output from the field this year. Currently, the giant field is producing 160,000-180,000bpd, and the production amounted to about 723,000 tons since the start of the year, according to deputy energy minister. Total expects the production from the Kashagan field offshore to average 200,000 bpd in 2017.
- The time required for full and sustainable rebalancing of the global oil market will depend significantly on various market dynamics including OPEC strategy, capex cuts, demand for oil products and global growth. We expect volatility in oil prices to remain high in 2017 due to risks arising from OPEC actions, slower-than-expected oil demand growth as well as geopolitical factors. In addition, the substantial concentration of hedge fund long positions has emerged as a source of price risk that cannot be ignored in the near term. Reduction of OPEC's output could be compensated by the potential increase in output from the US shale producers, if the current increase in global oil prices sustained in the longer-term. Therefore for 2017, we expect oil price recovery to remain moderate, with our central scenario suggests oil price to average of USD50-52pb.

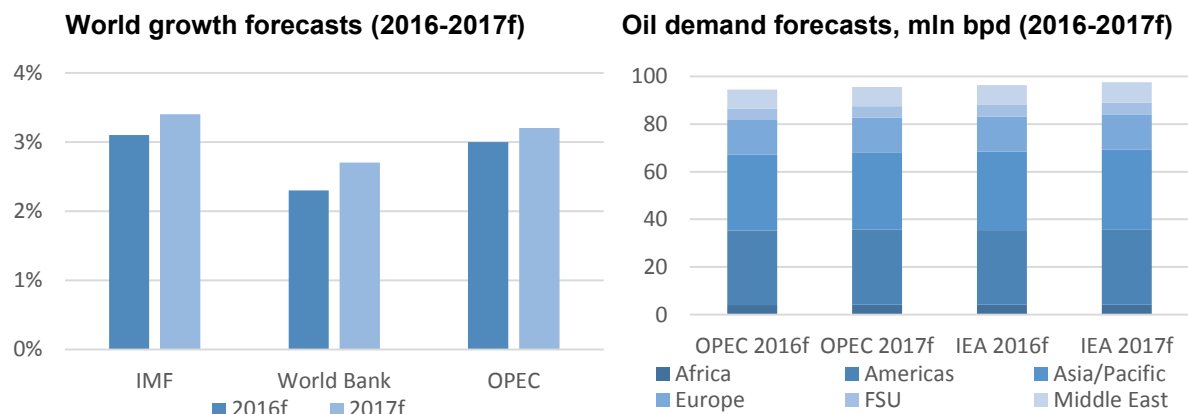
## 2. Fundamentals

### 2.1 Global growth and demand forecasts

Global economic growth remains essential to the oil market outlook. Some countries showed optimistic indicators, while others economic growth turned into recession in the last year. However, globally a higher economic growth rate is expected in 2017, compared to 2016. Last year global GDP growth is estimated to be 2.3-3.1%, rising to 2.7-3.4% in 2017.

There is currently little evidence to suggest that economic activity is sufficiently robust to deliver higher oil demand growth, and any stimulus that might have been provided at the end of 2015 and in the early part of 2016 when crude oil prices fell below USD30pb is now in the past.

On the demand side, oil demand is expected to rise by 1.19mln bpd to 95.81mln bpd on average in 2017 (2016: 94.62mln bpd). This is on the back of colder weather conditions and stronger car sales in Europe, higher growth in Asia Pacific.



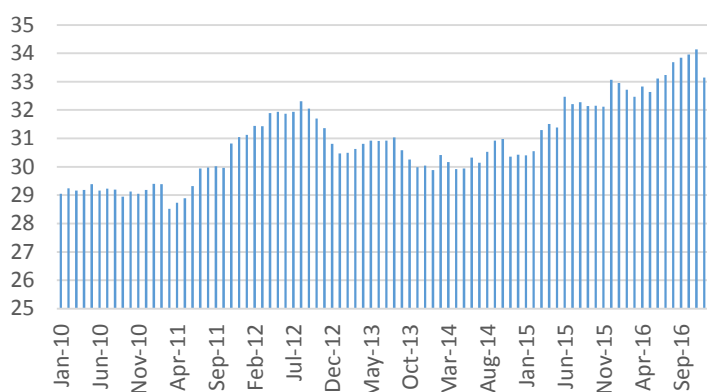
Source: IMF, World Bank, OPEC, IEA, Samruk-Kazyna

China's rebound in 2017 is expected to be one of the largest contributors to oil demand growth, due to the huge car sales numbers seen in 2016 translating into gasoline demand growth. Upside potential relates to anticipated improving growth of the economy and consumption in the road transportation sector, while downside risks originate mainly from fuel substitution and, to some extent, from developments in vehicle efficiencies. There are also positive expectations on the petrochemical sector of Asia Pacific. The outlook for US oil demand depends on US economy developments and oil price level. Japanese oil demand is expected to decline due to possible restart of some nuclear reactors.

### 2.2 OPEC supply

On 30 November, OPEC members agreed to reduce its production by around 1.2mln bpd to bring its ceiling to 32.5mln bpd, effective 1st of January 2017. The duration of this agreement is six months. OPEC crude production declined to 32.3mln bpd in January 2017, 840,000 bpd lower than MoM. The biggest declines were from Saudi Arabia, the UAE, Kuwait and Iraq. Modest gains were posted by Iran and Libya, while Nigeria nudged output to high of 1.6mln bpd. OPEC producers collectively reduced their output by nearly 1.12mln bpd since November 2016, just 4% lower than the 1.17mln bpd cut target agreed as part of the group's November production restraint plan. Saudi oil minister pegged OPEC and non-OPEC producers' compliance with their combined output cuts to slash joint output by 1.8mln bpd in the first half of the year at 80% on 22 January.

OPEC oil supply, mbpd (2010 –Jan 2017)



Source: Bloomberg, Samruk-Kazyna

Saudi production fell below 10mln bpd in January for the first time since February 2015 after it trimmed output by 560,000 bpd from its October baseline, deeper than its pledged cut of 490,000 bpd. Iraqi exports fell by around 180,000 bpd last month from record highs in December, and by just over 110,000 bpd from October. Iranian production rose by 30,000 bpd last month. But output has yet to reach the 3.8mln bpd target that Tehran negotiated last year, leaving it more than compliant with cuts when marked against a July 2005 baseline.

OPEC members' oil output, '000 bpd

OPEC member	Jan-17	Dec-16	Agreed cut*	Actual cut*	Compliance, %
Algeria	1,040	1,110	-50	-50	98
Angola	1,670	1,670	-80	-100	129
Ecuador	530	550	-30	-10	46
Gabon	195	210	-10	0	22
Iran	3,800	3,730	90	40	129`
Iraq	4,510	4,630	-210	-110	53
Kuwait	2,710	2,860	-130	-130	98
Libya	690	630	na	na	na
Nigeria	1,640	1,500	na	na	na
Qatar	615	620	-30	-50	160
Saudi Arabia	9,980	10,480	-490	-560	116
UAE	2,910	3,070	-140	-100	74
Venezuela	2,010	2,080	-100	-70	71

\* from Oct 2016 baseline in Opec Monthly Oil Market Report, except for Iran from Jul 2005, and Angola from Sep 2016

` Iranian compliance measured relative to cut from 2005 baseline

Source: Bloomberg, Samruk-Kazyna

The widespread implementation of the OPEC and non-OPEC cuts helped push oil prices to 14-month highs of nearly USD58.2pb in January 2017. Crude producers are generally satisfied with a price of USD55-60pb, according to the Iranian oil minister. But OPEC's aim of rebalancing the market could yet prove elusive if output in Libya and Nigeria recovers further. The two are exempt from the deal because

of widespread internal unrest that has disrupted production. Combined output rose by 170,000 bpd in January as some assets came back on stream.

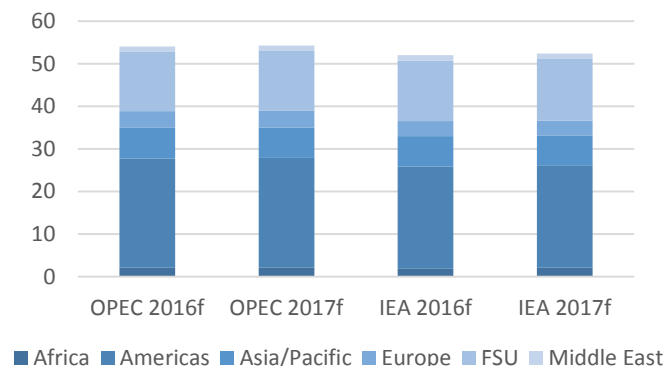
The OPEC reduced its oil output for a second month in February, according to Reuters survey, showing the exporter group has boosted already strong compliance to around 94%.

### 2.3 Non-OPEC supply

In support of OPEC’s decision to cut, on 9 December, 11 non-OPEC producers agreed to limit their output by 558,000bpd starting from January 2017 for six months. This implies a combined output cut by OPEC and non-OPEC countries at almost 1.8mln bpd. Global oil supplies plunged nearly 1.5 mln bpd in January, with both OPEC and non-OPEC countries producing less. At 96.4 mln bpd, world oil production stood 730,000 bpd below a year ago, with OPEC posting its first YoY decline since early 2015. Oil production in Russia, which pledged to cut its output by 300,000bpd under an agreement with OPEC, fell in February to around 11.1mln bpd from over 11.2mln bpd in October, showing weak compliance with agreed supply curbs.

After falling by 0.8 mln bpd last year, non-OPEC output will grow by 0.4 mln bpd in 2017. Growth is mainly in the Americas, where higher prices are fueling increased investments in US activity and long lead-time projects are coming on stream in Brazil and Canada.

**Non-OPEC supply growth forecasts, mln bpd  
(2016-2017f)**

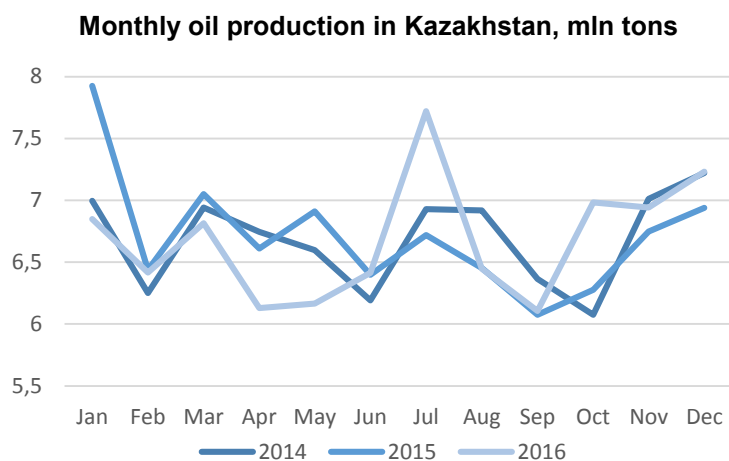


Source: OPEC, IEA, Samruk-Kazyna

The expected higher prices are good support for producers with marginal supply, particularly in US tight plays. Whilst the production in Europe and Asia Pacific is expected to decline, it will be offset by increasing growth in Brazilian and Canadian production. Canada is anticipated to be the third largest source of non-OPEC supply growth after Brazil and Kazakhstan in 2017. Canada’s growth will be because of a low base effect in 2016, although outages remain a downside risk with another equally strong wildfire being a possibility. The main contributors to growth in 2017 are expected to be Brazil with 0.25 mln bpd, the US with 0.24 mln bpd, Canada with 0.18 mln bpd, Kazakhstan with 0.14 mln bpd.

### 3. Kazakhstan's oil output to pick up in 2017

In 2016, crude oil production in Kazakhstan declined by 1.4% YoY to 65.6mln tons, while condensate gas output tumbled by 3.6% to 12.5mln tons. This was mainly driven by a steep drop in production at the Tengizchevroil field because of scheduled field maintenance. In July 2016, oil production reached 7.7mln tons, the highest level since January 2015, and tumbled to 6mln tons in September 2016. Output started to recover in October on the back of ramp-up Kashagan's production.



Source: Agency of statistics, Samruk-Kazyna

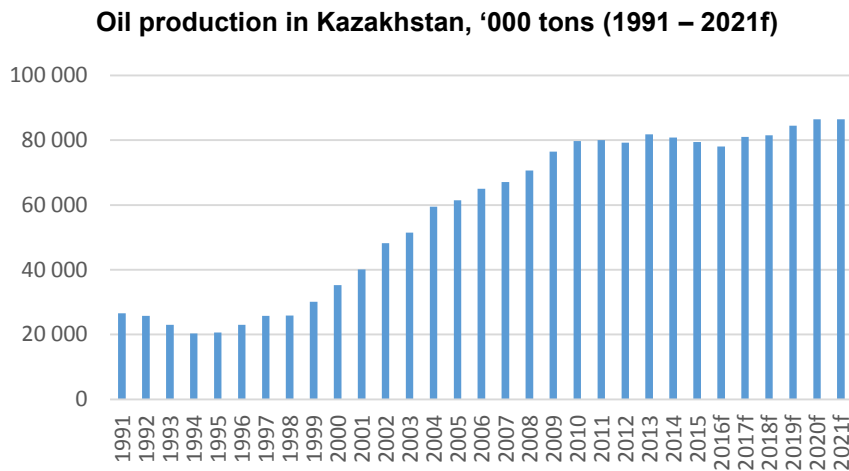
Projects delays, aging fields and maintenance works have negatively affected oil production growth in Kazakhstan. However, a commissioning of Kashagan could give Kazakhstan a boost in production and exports by the end of the year and into 2017. These developments will not solve the energy sector's overall problems stemming from low energy prices, but they will give a slight reprieve.

In January 2017, Kazakhstan reduced its crude production to about 7.12mln tons or 1.75mln bpd from 7.23mln tons or 1.77mln bpd in December 2016. According to the energy minister, the country is meeting its commitment to cut crude production in support of last year's agreement between OPEC and non-OPEC countries. But output figures given by the energy minister suggest it has not yet achieved its target. Kazakhstan's January production at 1.75mln bpd, appears to be 10,000 bpd lower than the November 2016 baseline of 1.76mln bpd, from which the country agreed to lower its output by 20,000 bpd in January-June 2017. According to preliminary results, in February Kazakhstan reduced its oil output to about 6.59mln ton or 1.79mln bpd.

According to the energy ministry, the January reduction is mainly accounted for by west Kazakhstan producers. CNPC-Aktobe, Kaspiyneft, Uzenmunaigaz, Karakudukmunai and Kom Munai. It also identifies Kolzhan, Kumkoltransrervis and KOR, which produce in the south of the country. All these companies operate fields classed as mature.

Kazakhstan's energy ministry forecasts that the country's crude and condensate production will pick up by nearly 4% this year to 81mln tons, with exports also rising by 5% to 65mln tons. The total figure includes an expected 5mln tons from the Kashagan field, 27.5mln tons from the Tengiz field and 11.8mln tons from Karachaganak field. The 5mln tons figure given for Kashagan production in the new forecast is lower than previous indications from the energy ministry of up to 9mln tons for output from

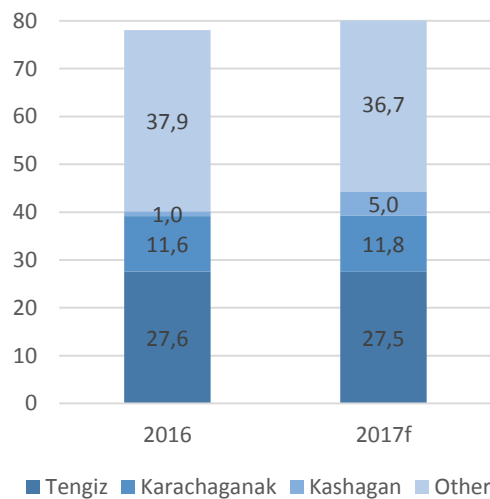
the field this year. Kazakhstan’s total oil supply is projected to rise to 81.5mln tons in 2018 and to reach 86.5mln tons in 2020-2021.



Source: Agency of Statistics, Ministry of National Economy, Samruk-Kazyna

According to Fitch Ratings, over the medium term, the Kazakhstan oil and gas sector will be driven by ongoing and planned mega projects in upstream, oil & gas pipelines undergoing expansion, and planned disposals in downstream.

**Oil output forecasts by projects, mln tons**

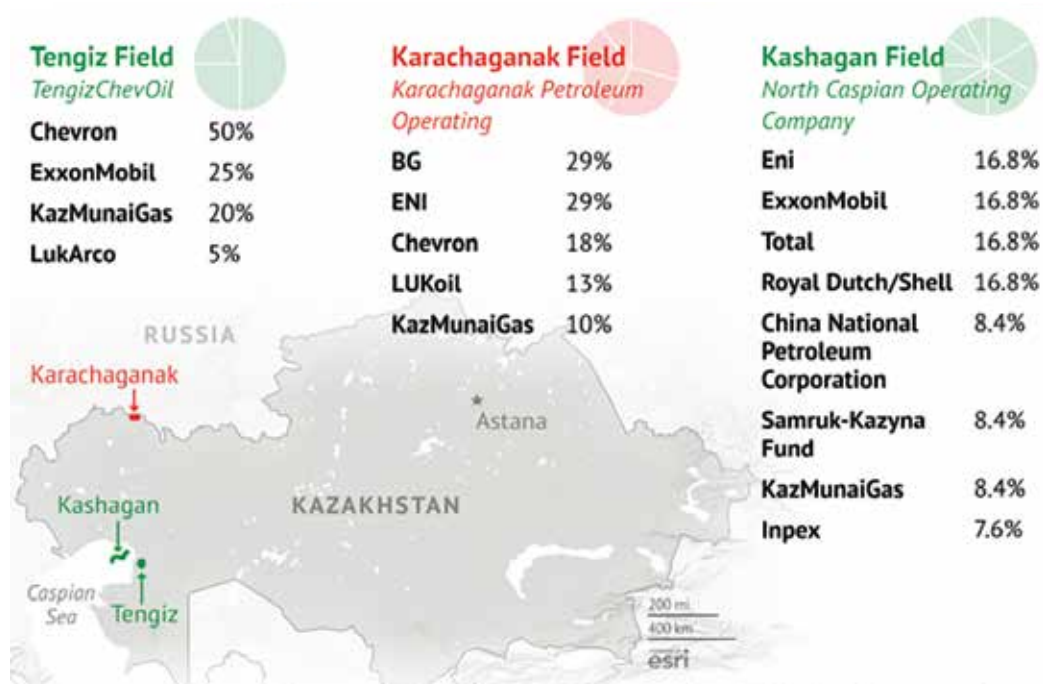


Source: Kazakhstan energy ministry, Samruk-Kazyna

In 2025, the projected share of production from Kazakhstan's top-three mega oil projects, Tengizchevroil (TCO), Kashagan and Karachaganak, is likely to exceed 75% of the country's total, up from 50% in 2015. Kazakhstan's over-reliance on a few mega oil fields makes it more exposed to single-project geological and technical risks and oil price volatility, as illustrated by the ongoing multi-billion dollar efforts to restart Kashagan.



## Kazakhstan's energy projects: consortium members



Source: Stratfor 2015

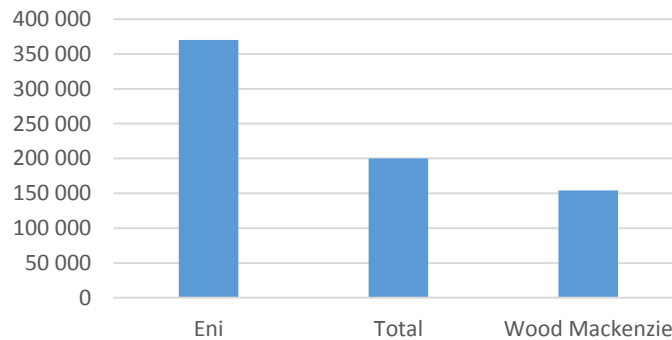
### 3.1 The impact of Kashagan on the global oil market

Kazakhstan's giant Kashagan oil field has taken 16 years and more than USD50bln to bring to the verge of production. It could take another decade to reach its potential, with initial output at half the forecast level. Startup of Kashagan is making a contribution in predicting the prospects of not only Kazakhstan's economy but also the global oil industry. OPEC has raised its forecast of non-OPEC production, partly to reflect the imminent start-up of the giant, Kashagan field in Kazakhstan. The IEA also increased its forecast for non-OPEC supply in 2017.

We think that Kashagan oil output will have a modest impact on the oil market. The share of Kazakhstan in total world oil output amounted to only 1.8% in 2015. There are far significant factors that affect oil supply and prices. Particularly, oil consumption in China and continuing increase of oil production in key oil-producing countries, including Russia, the share of which stood at more than 12%, OPEC's agreement to freeze oil supply, and the US shale production.

Currently, the giant field is producing 160,000-180,000bpd, and the production amounted to about 723,000 tons since the start of the year, according to deputy energy minister. Eni SpA expects Kashagan's output to reach 370,000bpd by the end of 2017. On the other hand, Wood Mackenzie says that the field will still cause problems for Eni and its partners and contends the field will produce only about 154,000bpd in 2017. The consultancy does not expect Kashagan to get near targeted volumes until the next decade, particularly Kashagan Phase 1 is not expected to produce more than 300,000 bpd until the early 2020s. Total expects the production from the Kashagan field offshore to average 200,000 bpd.

**Kashagan's oil production in 2017, bpd**



*\*Eni's expected volume is by year end 2017*

Source: Eni, Wood Mackenzie, Kazakh energy ministry, Samruk-Kazyna

Most of oil production in Kashagan is expected to be exported given an international composition of the shareholder structure. Meanwhile, during the visit of the Kazakh President to China, it was stated that Kazakhstan can increase oil exports to China from 7mln tons to 20mln tons, in connection with the commissioning of Kashagan. NC Kazmunaigas and Vitol, the world's largest oil trader, signed USD1bln agreement to export a part of output from Kashagan. However, only small portion of oil volumes, which accounts to NC Kazmunaigas, may be supplied to the domestic market.

The present plan for the export of production from the field start-up is to use a mix of existing pipelines as well as rail exports. The Western Caspian Pipe Consortium route (pipeline from Atyrau to Novorossiysk along the Black Sea), the Northern Atyrau to Samara route (connection to the Russian Transneft system) and the Eastern route (Atyrau to Alashankou) connect to existing export networks.

**Possible export routes of Kashagan oil**



Source: NCOO

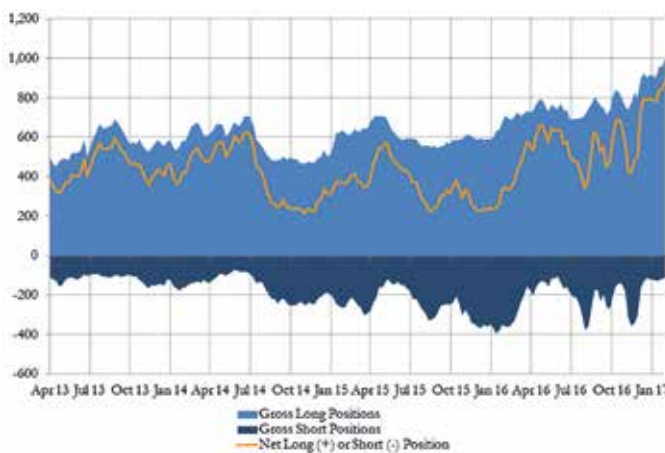
After increase in production at the Kashagan field, the bandwidth of the existing oil transportation infrastructure running to Russia and China will be insufficient. The construction of the Eskene-Kuryk-Baku pipeline for further Kashagan oil transportation through Azerbaijan will help solve this problem. Previously, Azerbaijan's Energy Minister Natig Aliyev said Kazakhstan will be able to daily export 150,000 barrels of Kashagan oil through the Baku-Tbilisi-Ceyhan pipeline.

**4. Record net long position in oil markets**

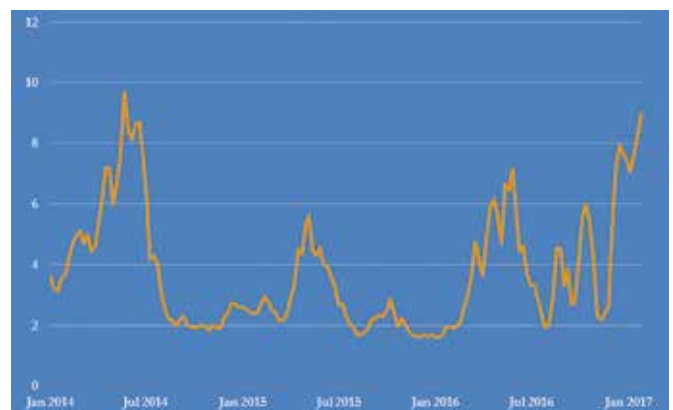
Hedge funds and other money managers have built long positions equivalent to almost 1bln barrels of crude. The ratio of long to short positions has reached almost 10.3:1. Hedge funds continued to add long positions despite the Brent prices have almost doubled over the last 12 months and are trading near the highest level since July 2015. The enormous concentration of hedge fund long positions has emerged as an important source of price risk in the near term.

The previous record net long position in oil markets, set in June 2014, preceded the deepest and most prolonged slump in prices for almost 20 years. The risk of a rush for the exits, a disorderly liquidation of positions and a correction in prices has risen significantly with so many fund managers now positioned in the same long direction.

**Long and short positions in the three main crude oil futures and option contracts, mln barrels**



**Ratio of long and short position in Brent+WTI**



\*NYMEX WTI, ICE WTI, ICE Brent

Source: US Commodity Futures Trading Commission, ICE Futures Europe, CME Group, Thomson Reuters

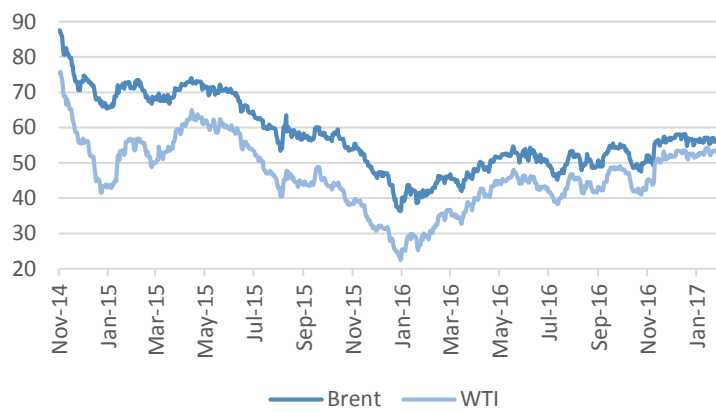
**5. Oil & Gas capex cuts**

Global oil and gas companies continued to cut capex for the second year in a row in 2016. The decrease in capex in 2016-2017 amounts to USD400bln. This is a percentage decrease of 33%. The breakdown of that for the US and non-US is around USD190bn and USD210bn. This is very much likely to impact liquids production growth from 2018 onwards, if not earlier.

### 6. Oil price forecasts and volatility

The time required for full and sustainable rebalancing of the global oil market will depend significantly on various market dynamics including OPEC strategy, capex cuts, demand for oil products and global growth. We expect volatility in oil prices to remain high in 2017 due to risks arising from OPEC actions, slower-than-expected oil demand growth as well as geopolitical factors. In addition, the substantial concentration of hedge fund long positions has emerged as a source of price risk that cannot be ignored in the near term. Reduction of OPEC’s output could be compensated by the potential increase in output from the US shale producers, if the current increase in global oil prices sustained in the longer-term. Therefore for 2017, we expect oil price recovery to remain moderate, with our central scenario suggests oil price to average of USD50-52pb.

**Brent vs. WTI price trends, USD pb (2014 – 28 February 2017)**



Source: Bloomberg, Samruk-Kazyna

**30-day Brent historical volatility, % (2014 – 28 February 2017)**



Source: Bloomberg, Samruk-Kazyna

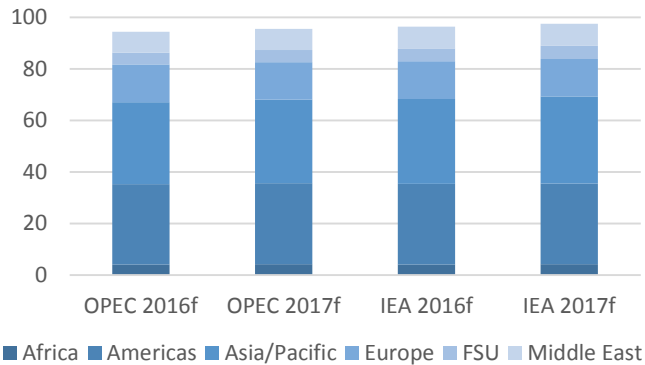
**Oil Price Projections 2016-2017, USD per barrel**

Price	2016 average	Average YTD, as at 28 February 2017	2017f average
Brent	48.69	56.39	50-52 <sup>^</sup>

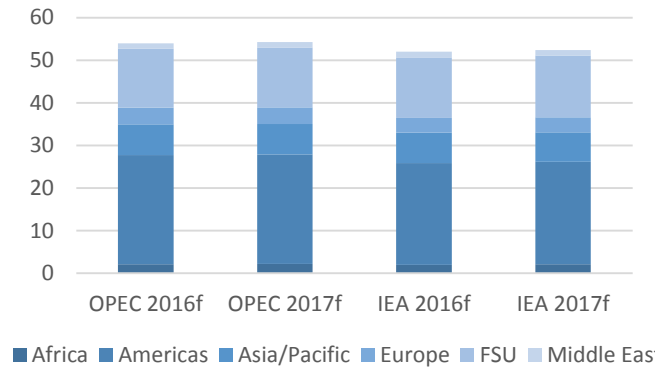
Source: Bloomberg, Samruk-Kazyna

<sup>^</sup> represents in-house projection by Samruk-Kazyna, average price expected for 2017

**Oil demand forecasts, mln bpd (2016-2017f)**

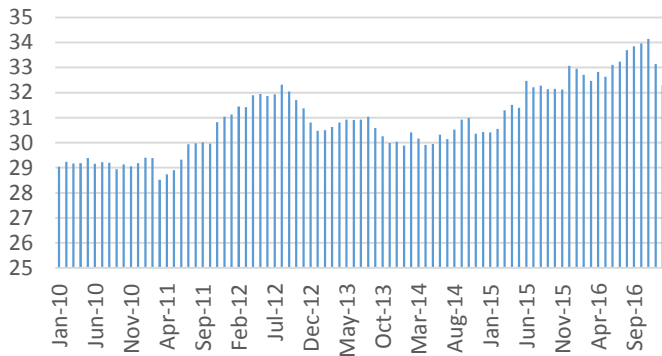


**OPEC supply growth forecasts, mln bpd (2016-2017f)**

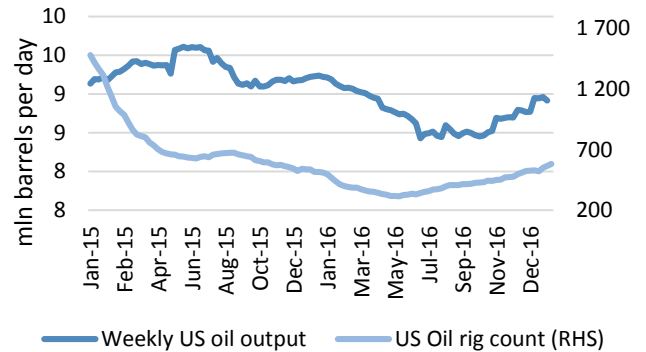


Source: OPEC, IEA, Samruk-Kazyna

**OPEC oil supply, mbpd (2010 – Jan 2017)**

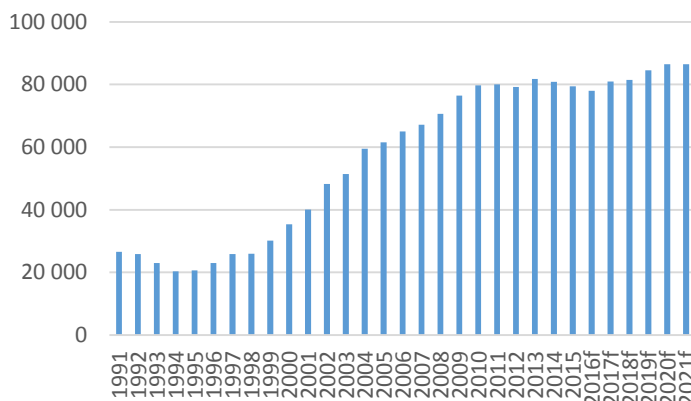


**US weekly oil output and rig count (2015 – Jan 2017)**

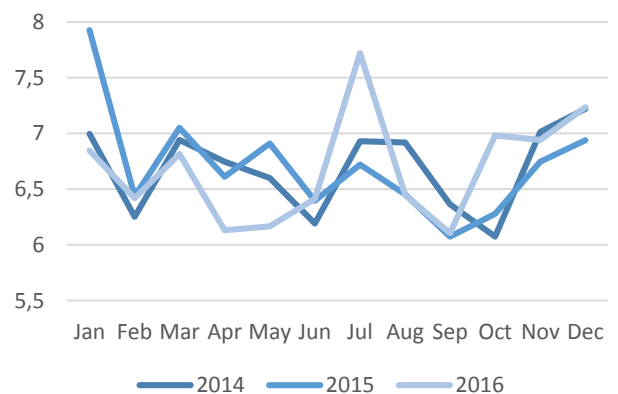


Source: Baker Hughes, EIA, Samruk-Kazyna

**Oil production in Kazakhstan, '000 tons (1991 – 2021f)**



**Kazakhstan's monthly oil production, mln tons (2014 - 2016)**



Source: Agency of Statistics, Ministry of National Economy, Samruk-Kazyna

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