ИНСТИТУТ ЭНЕРГЕТИКИ И ФИНАНСОВ

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HOW LONG WILL LOW OIL PRICES LAST?

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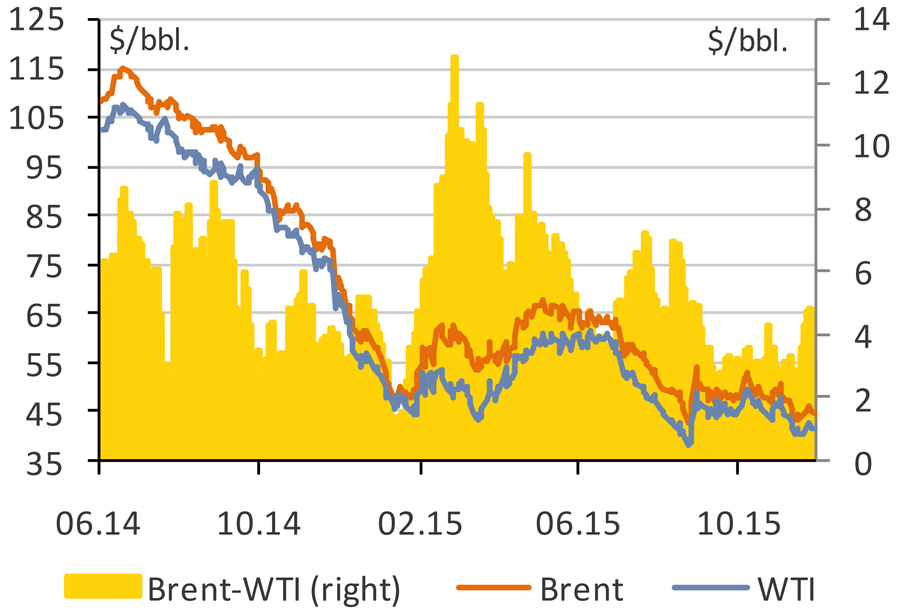
Today the situation in the oil market remains uncertain

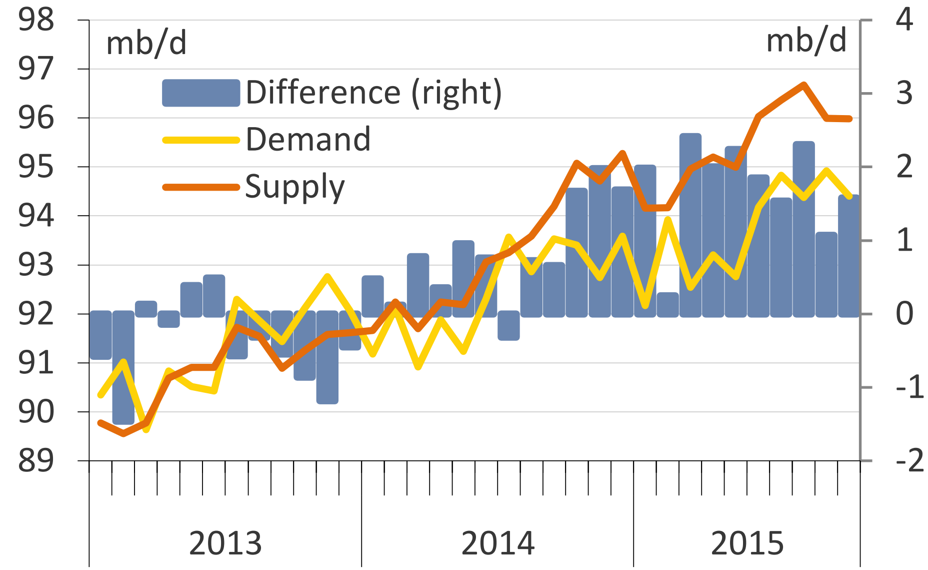
Oil Prices



Source: Bloomberg

- Crude oil benchmarks were locked in a narrow range (around $45-50/bbl Brent) during October –November.
- The fundamental factors of the oil market (supply and demand) have currently a much greater impact on prices than political instability and short-term risks. The role of financial players has declined.

World oil supply and demand



Source: EIA

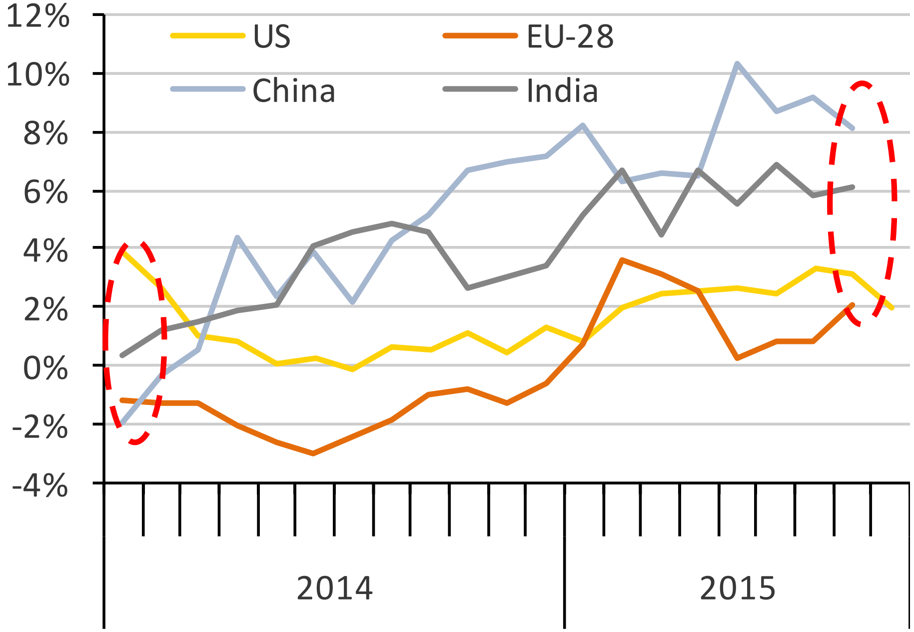
- In 2014, world production growth of liquid hydrocarbons had accelerated, while growth in demand had slowed.
- Global liquids production continues to exceed consumption.
- The imbalance remains a high level during 2H 2015, despite the low price level and the acceleration of growth in demand.

Five key factors will determine the development of the oil industry in the short term

- Acceleration demand for liquids at low oil prices
- Dynamics of drilling activity and LTO production in the United States
- Production in key OPEC countries (Saudi Arabia, Iraq and Iran) and the organization's policy of quotas
- Dynamics of liquids stocks
- Reduction in the investment program for the largest oil and gas companies

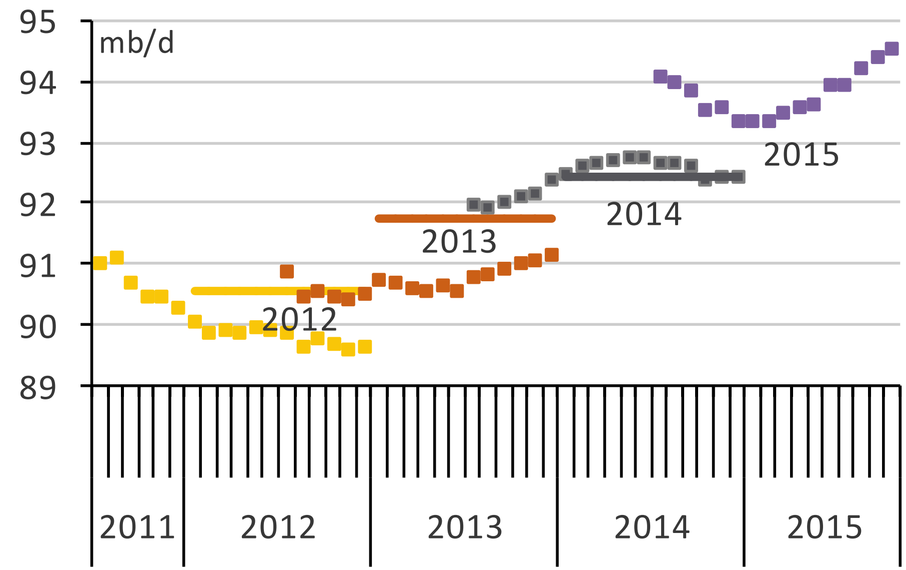
Low prices for oil and petroleum products have led to an acceleration in demand

Growth (y/y) liquids consumption for key countries



Source: JODI, National Statistic Agencies

Predicted (points) and actual (direct line) values of the global oil demand



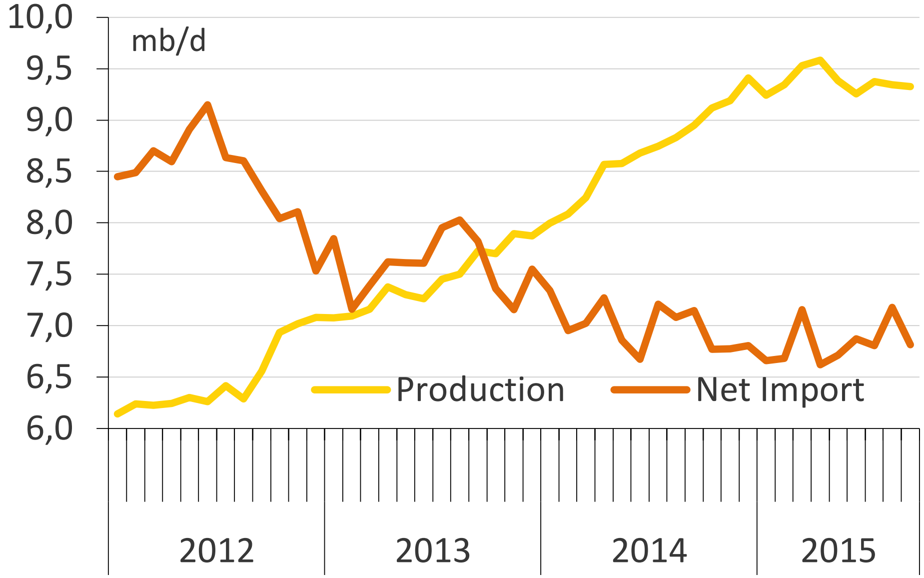
Source: IEA

- The rate of growth in demand for liquids in key countries (OECD and non-OECD) increased.
- At the same time, global economic growth has slowed down more than expected, as did the demand for oil in major consuming countries such as China

- Leading energy agencies are revising forecasts for world oil demand in a positive way
- According IEA global oil demand will equals 94.6 mb/d in 2015
- World demand growth is forecast to slow to 1.2 mb/d in 2016 after surging to a five-year high of 1.8 mb/d in 2015.

Low oil prices have significantly affected the US oil production, changing the trends of recent years

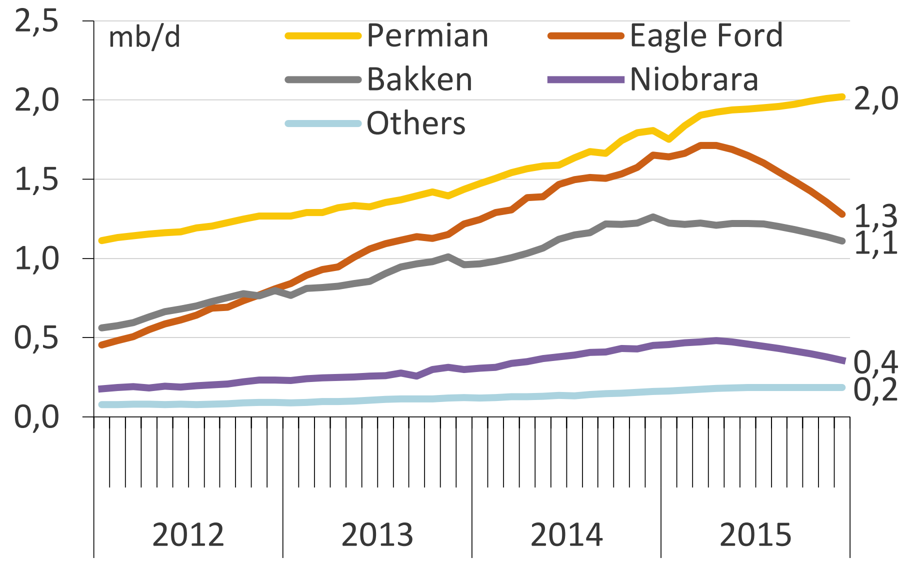
U.S. Production and Net Imports of Crude Oil



Source: EIA

- EIA estimates total crude oil production has declined almost 0.5 mb/d since April, averaging 9.1 mb/d in October.
- U.S. crude oil production is projected to increase from an average of 8.7 mb/d in 2014 to 9.3 mb/d in 2015 and then decrease to 8.8 mb/d in 2016
- Contrariwise U.S. crude net import have stopped falling in 2015

Oil production by U.S. shale region

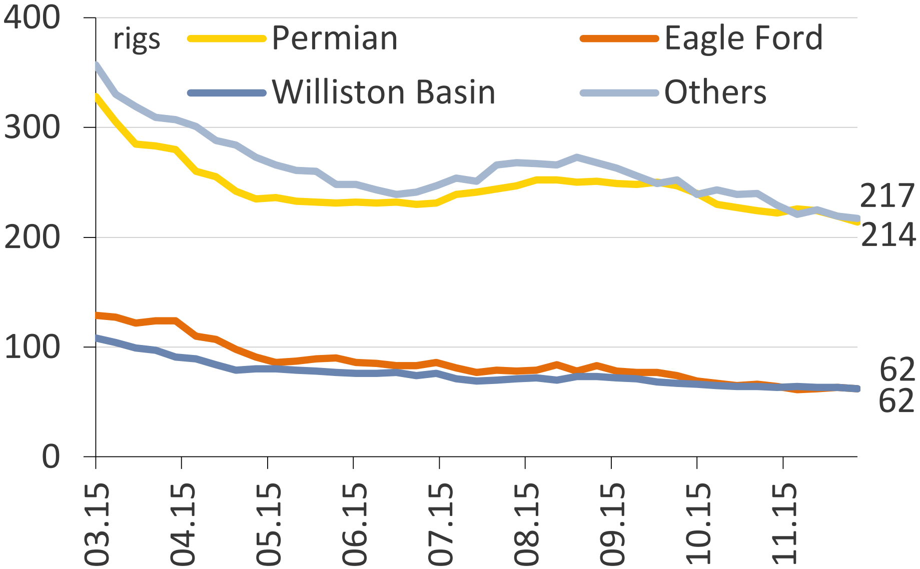


Source: EIA

- Falling rig counts drive projected near-term oil production decline in 3 key U.S. regions: Eagle Ford, Bakken, Niobrara

In the short term, US liquids production will respond flexibly to the price situation

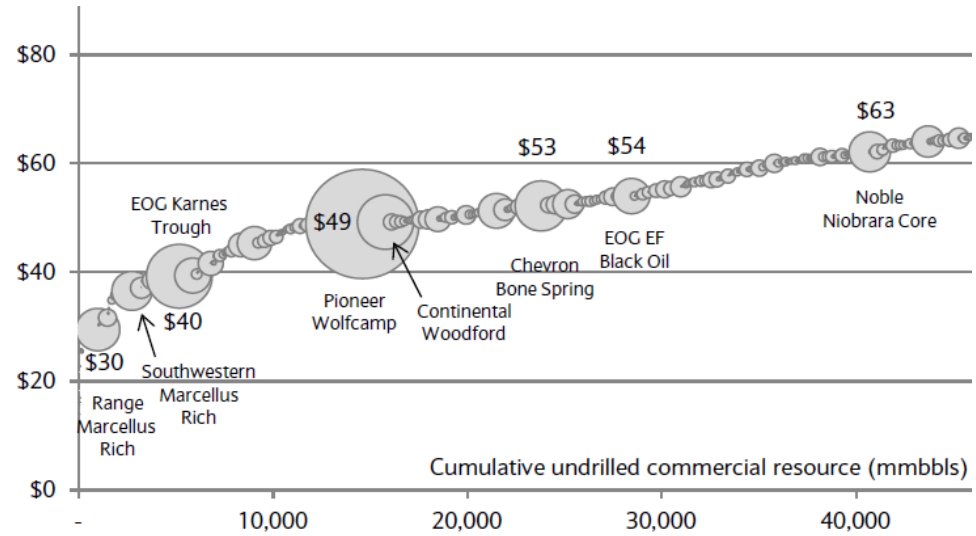
US rig count for shale plays



Source: Baker Hughes

- Oil prices, particularly in the second quarter of 2015, remained high enough to support continued developmental drilling.
- However, with WTI prices below $50/b since August, oil-directed rig counts have resumed declining.
- Projected oil prices below $60/b throughout the forecast period are expected to limit onshore drilling activity and well completion totals, despite continued increases in rig and well productivity and falling drilling and completion costs.

US tight oil and gas cost curve. WTI Breakeven at 10% IRR ($/bbl)

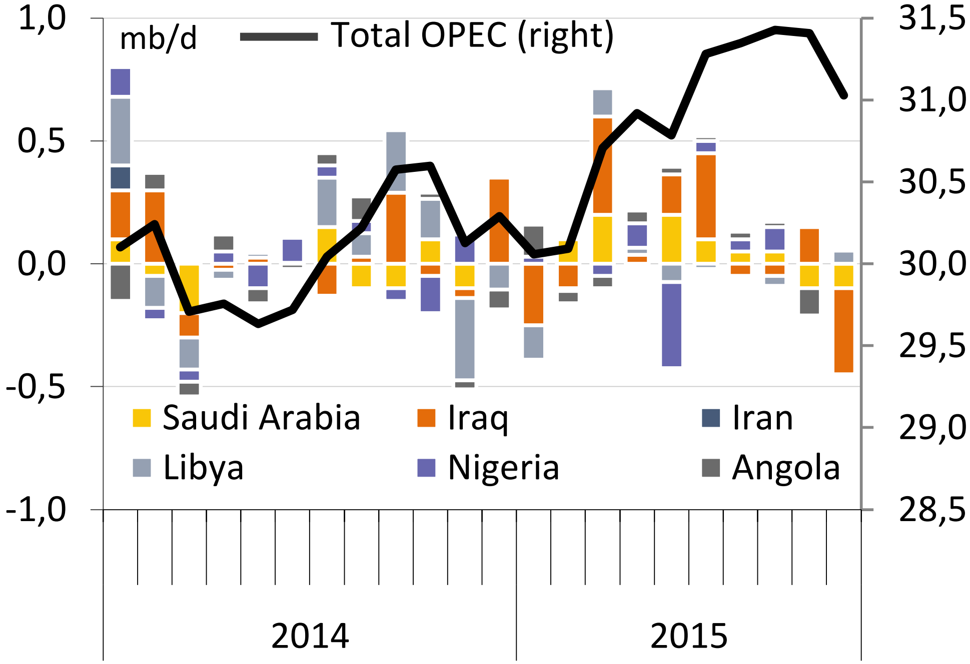


Source: Barclays

- Shale production is diversified by the level of «break-even costs».
- The price range of $ 45+/bbl Brent is critical for the shale oil production profile.
- Importantly, production costs are falling, particularly in North America. And as the cost of finding and extracting oil decreases, less money will need to be spent to pump the same amount of oil.
- Lower oil prices will also lead to greater budget discipline and efficiency

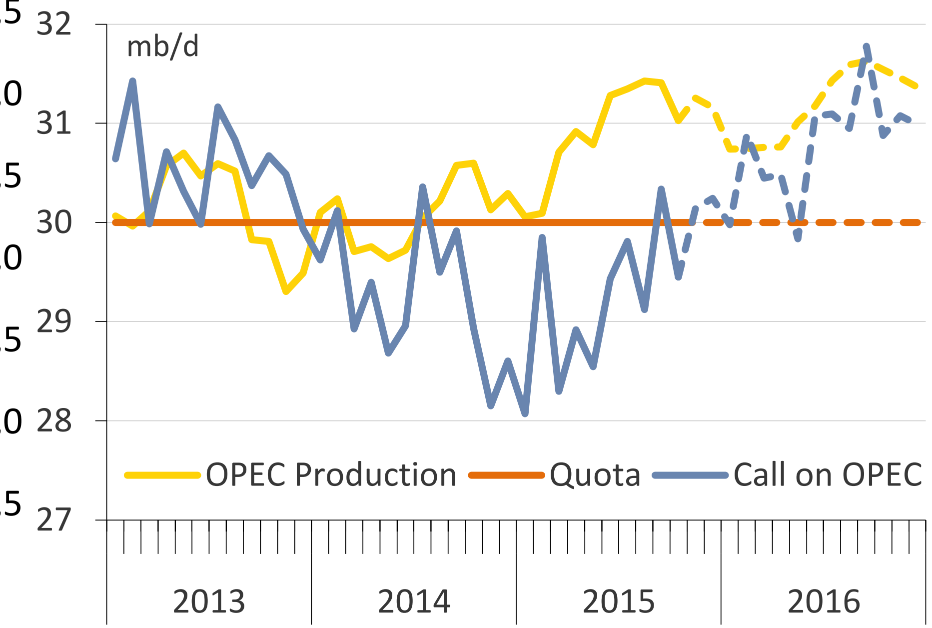
OPEC continues to pursue strategies to defend market share

Growth (m/m) crude oil production in key OPEC countries



Source: EIA

OPEC production and Call on OPEC crude

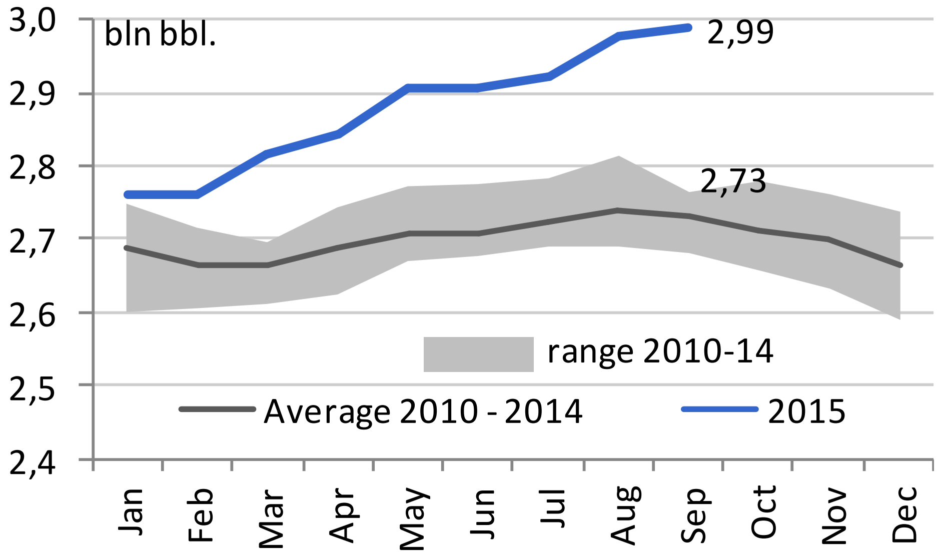


Source: EIA

- OPEC crude oil output held steady in 2H 2015 at 31.0 – 31.5 mb/d.
- Since November 2014, when OPEC agreed its strategy to defend market share at the expense of price, supply has risen by 1.3 mb/d.
- Today, OPEC crude production significantly exceeds call on OPEC and its official quota 30 mb/d.
- A marginal tightening in fundamentals lifts the 2016 call on OPEC to 30.8 mb/d (EIA). The ‘call’ in 2H16 rises to 31.1 mb/d, which is higher than the group’s current production.

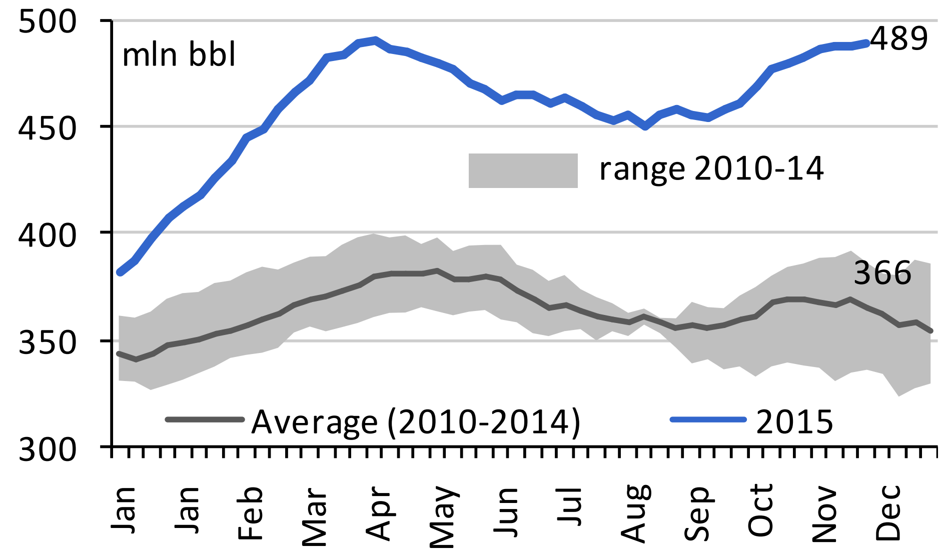
The massive cushion of liquids stocks can significantly delay the balancing market

OECD Commercial Crude Oil and Other Liquids Stocks



Source: IEA

U.S. Commercial Stocks of crude oil



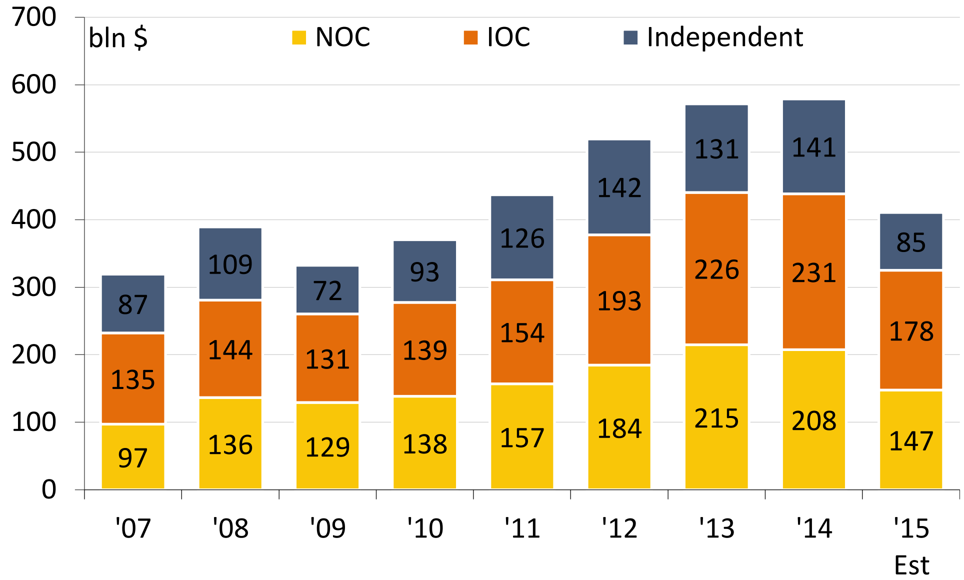
Source: EIA

- OECD Commercial Liquids Stocks at a record 3 billion barrels
- This massive cushion has inflated even as the global oil market adjusts to $50/bbl
- Continuing increases in global liquids inventories have put significant downward pressure on prices in 2015.

- Currently, U.S. commercial stocks of crude oil remain at a level that is significantly above the levels of 2010 - 2014

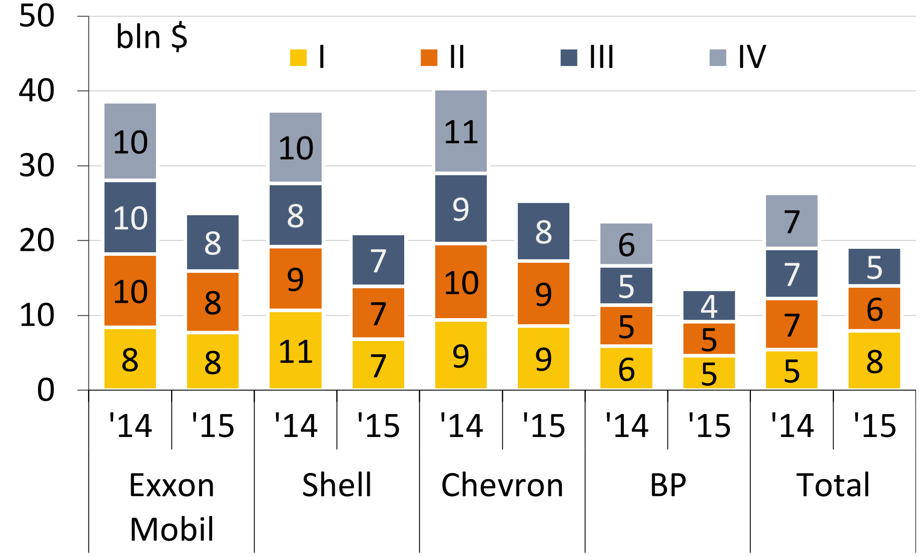
Majors respond to the current pricing situation by reducing investment

Upstream CapEx for NOCs, IOCs and independents



Source: JPMorgan

Majors Capital Expenditures



Source: Company's report

- According to JPMorgan in 2015 the total reduction in investment could reach $ 170 billion
- According to Goldman Sachs estimates, about $1 trillion of planned investments into prospective production projects (exception for shale projects in the USA) may prove unprofitable at oil prices inferior to $70/barrel
- Majors Capital Expenditures also continued to decline, reaching in 3Q 2015 $32.3 billion (-6.5% q/q, -18.7% y/y)
- Majors also planning to reduce investment in 2016-2017
- Investment slowdown will affect production volumes outside the USA only in a 2-3 year period