

# OIL AS A COMMODITY: DEMAND, AVAILABILITY AND FACTORS AFFECTING CONDITIONS AND PROSPECTS OF THE MARKET



**РОСНЕФТЬ**



**OIL AS A COMMODITY AND MAIN DRIVERS FOR ITS  
DEVELOPMENT AND ROLE**

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Rosneft Oil Company  
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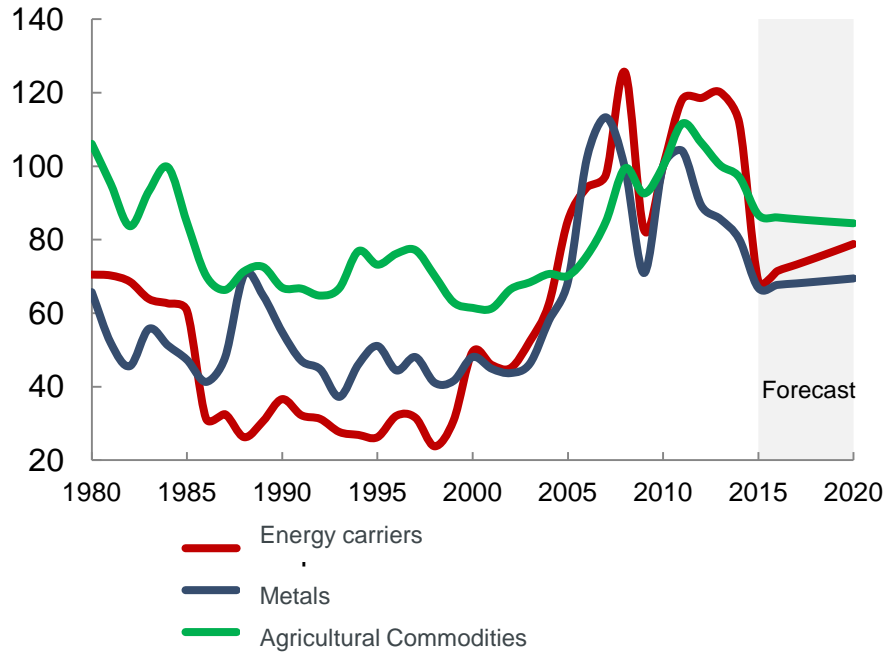
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# Different commodities price dynamics' behavior is similar; this points to the fact that demand is the first priority factor



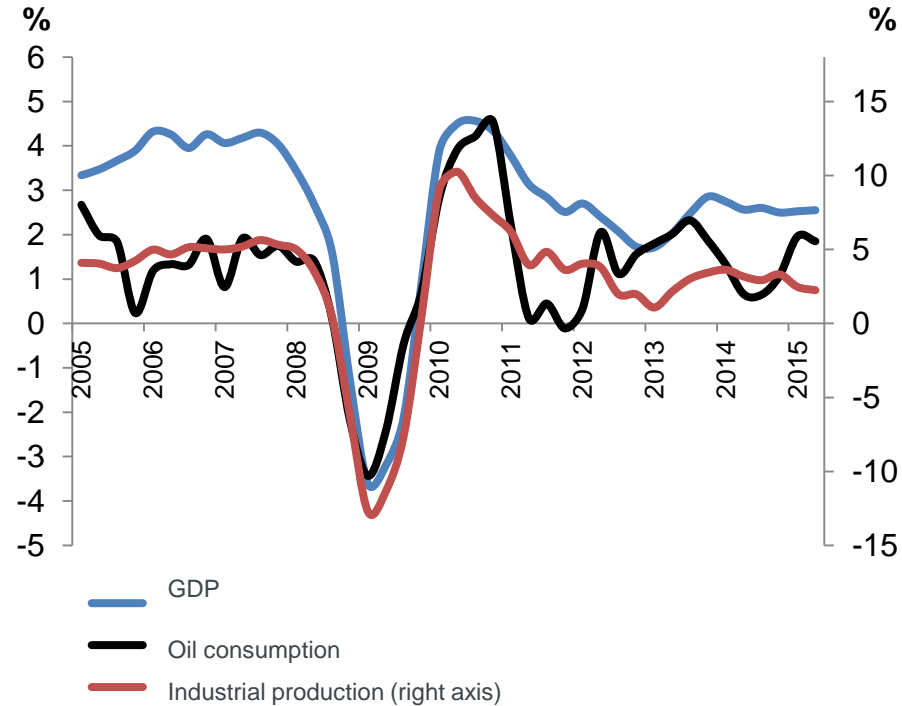
## Energy carriers, metals and agricultural commodities price dynamics

2010=100 (steady \$)



- ▶ Following V-shape restoration in 2010-2013, agricultural commodities and metals prices took downward trend, and energy consumption joined the trend in the course of impetuous oil market meltdown in 2014.

## GDP, industrial production and oil consumption dynamics

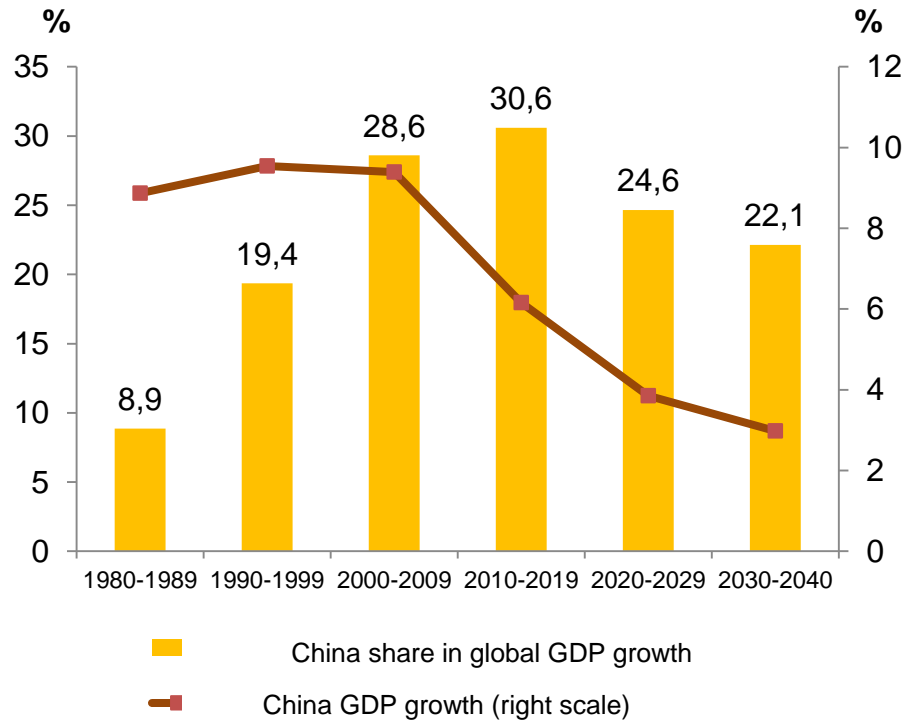


- ▶ Starting from 2011, the global economy is facing smooth deceleration, especially in industrial production

# China economy is key global economy and commodities price growth factor

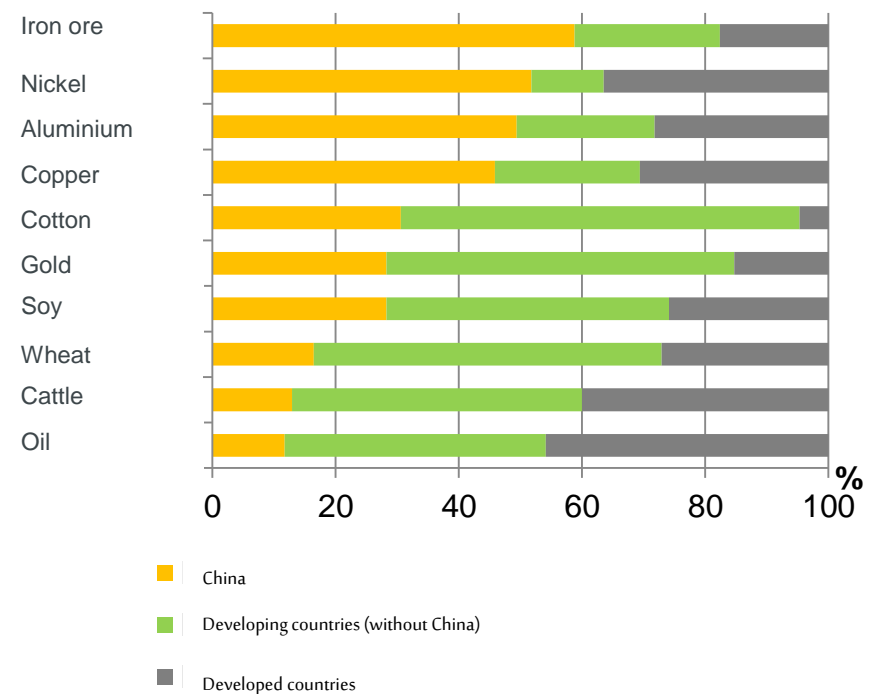


## China's GDP structure and its share in global economy growth



- It is expected that by 2030 China contribution to global economy rate will be about 30% per year and on the wane afterwards

## Regional structure of global metals, agricultural goods and oil consumption

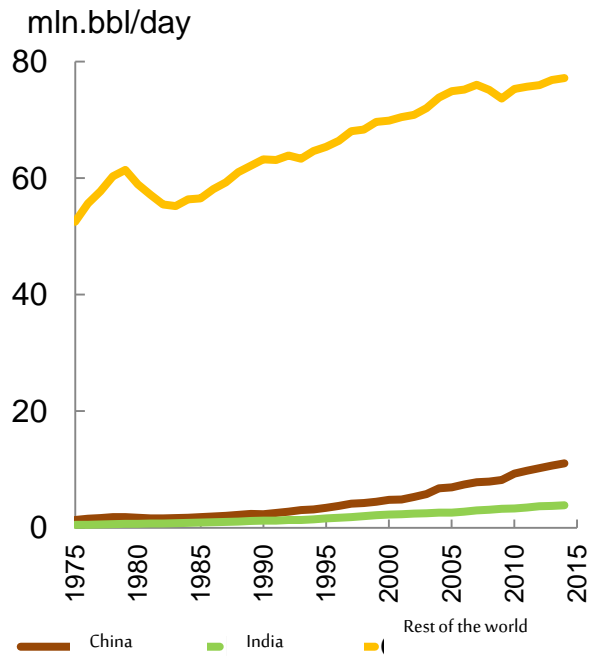


- Metals markets are most dependent on demand in China. China contribution to global copper, aluminum and ore consumption is about 45-60%.
- China contribution to global oil consumption is 12%.

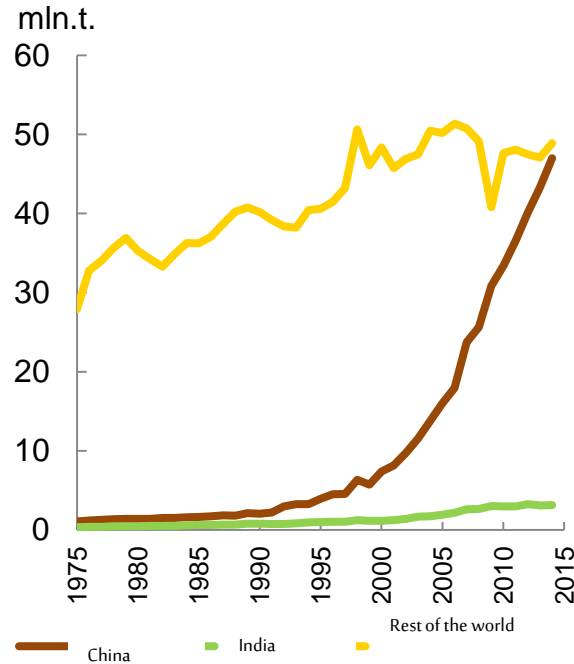
# China economy has most significant effect on the growth of global demand for metals and energy carriers



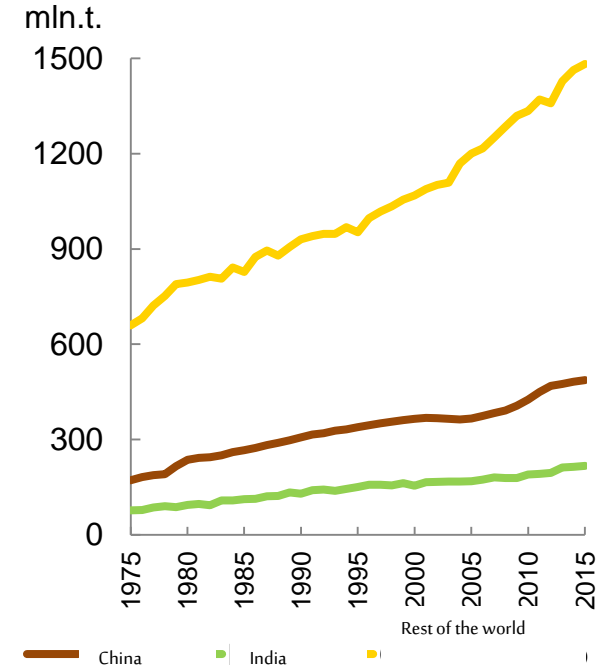
## Oil consumption



## Non-ferrous metals consumption



## Grain consumption

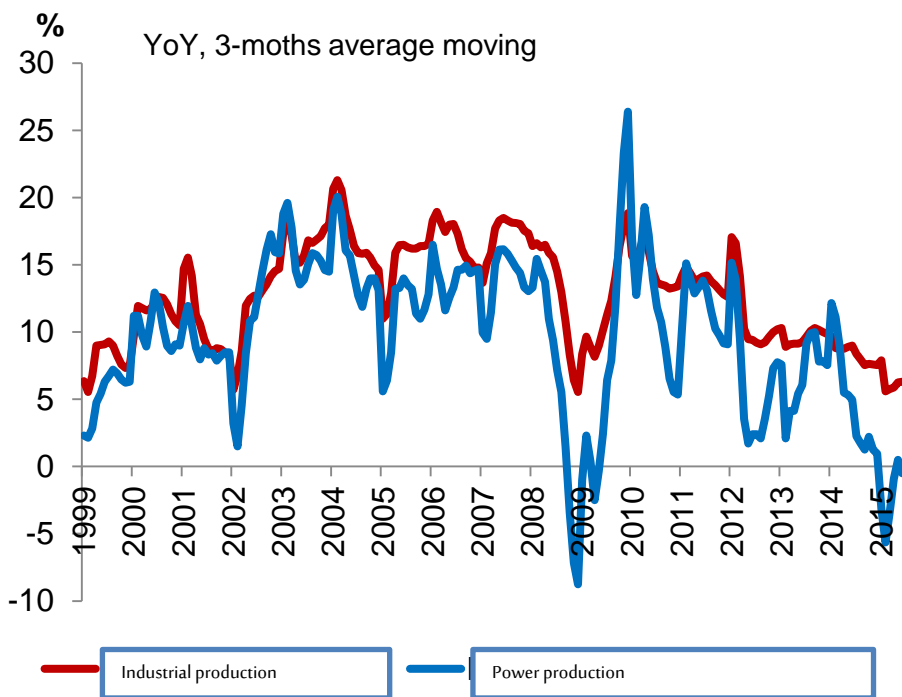


- ▶ Non-ferrous metals demonstrated the highest growth of demand in China over the last decade
- ▶ The next, in terms of growth rate, is oil demand— during recent years China secured up to 2/3 of global oil demand growth. Therefore, in the eyes of analysts, oil demand growth in the world and in China matches.

# Growth rate in industry and power consumption in China are decelerating

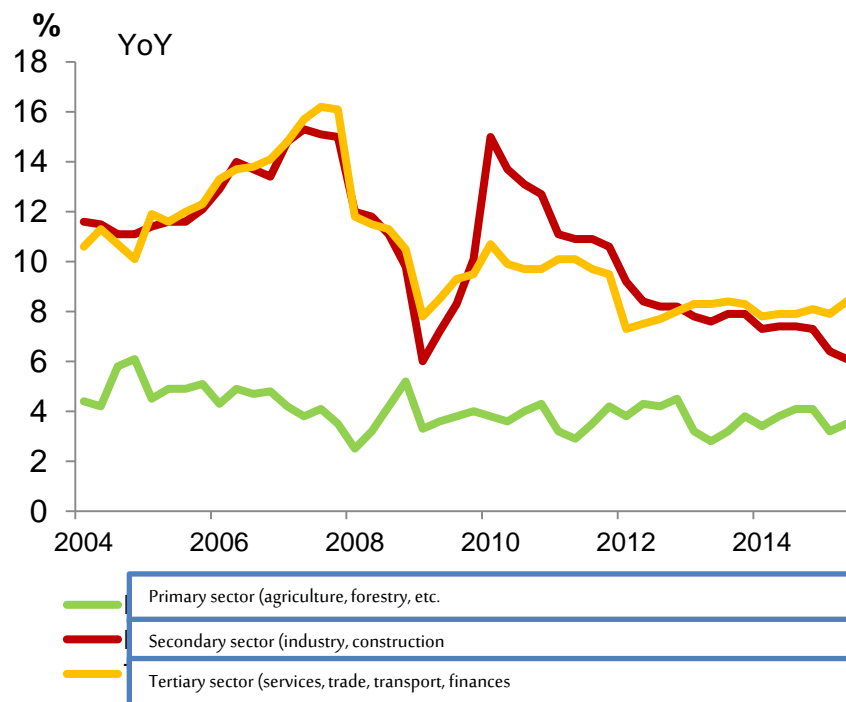


## Dynamics of industrial production and power production in China



- ▶ China industry growth is slowly decelerating— in July it grew by 6,0% (in June the growth rate was 6,8%)
- ▶ Power production in July decreased by 2%

## Dynamics of real GDP growth in China's economy sectors



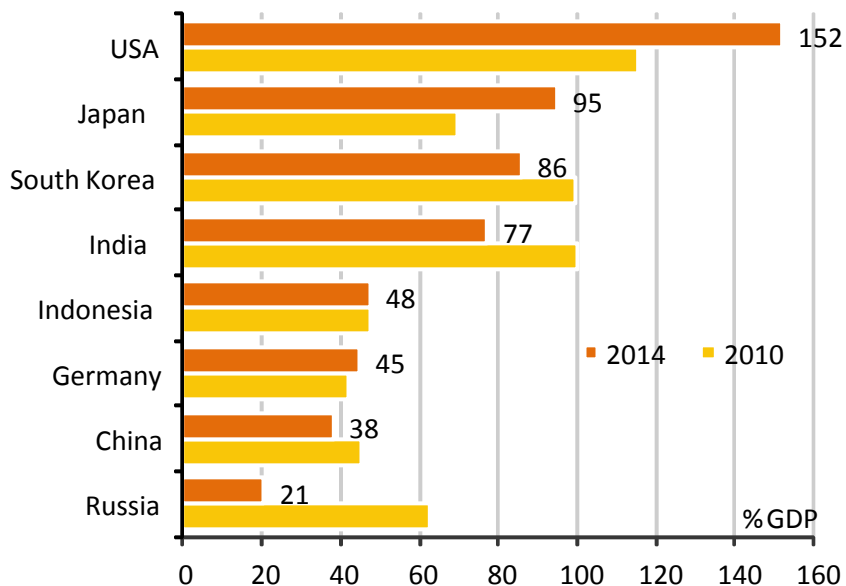
- ▶ First of all, commodities consuming sectors are decelerating
- ▶ At the same time, the share of services sector in China economy is growing

# Slowdown Has a Controllable Character:

The stock market role in the economy is not too big, the housing market is under control

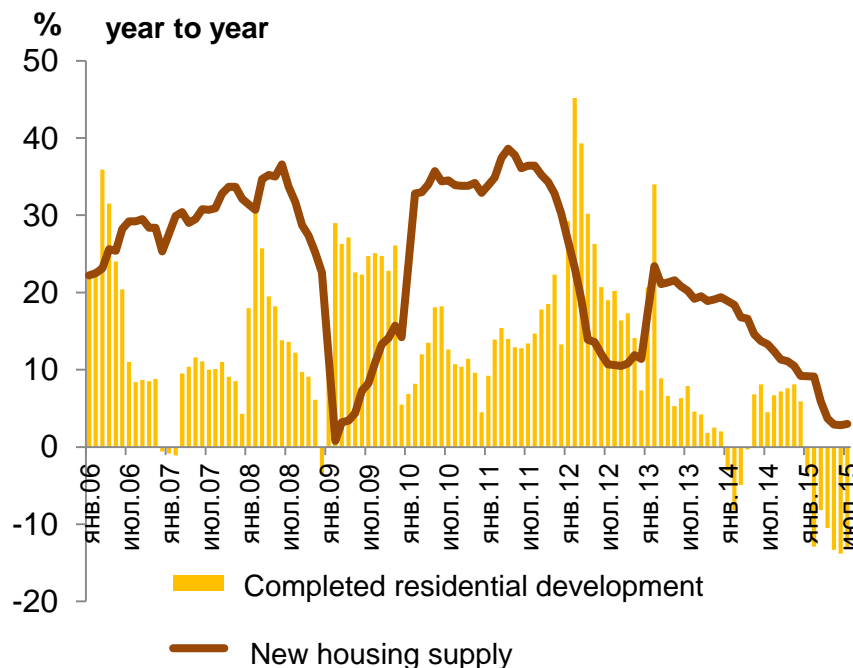


### Stock market capitalization



- ▶ The stock market is poorly connected with the real sector: On the financial markets less than 3% of the capital investment is financed due to attraction, while over 70% due to own funds. Only 6% of the population have stock market investments.

### Dynamics of investments in residential development and new housing supply volumes



- ▶ The real estate market has a significantly greater importance: in 2014, 6% of GDP, 19% of all investments and 20% of bank credits fell thereon.
- ▶ The pace of investments growth in residential development in China is gradually decreasing since 2013.

Sources: National Statistical Office of the PRC, Bloomberg, IEF

# Asian economies today are much more stable than in 1997 - 1998



**1 Importance of Asia** in the world has increased, and the other countries take this into account in their policy (e.g., the US monetary policy)

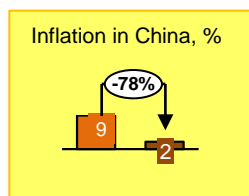
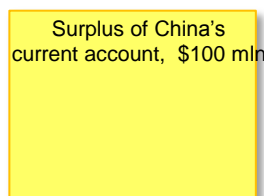
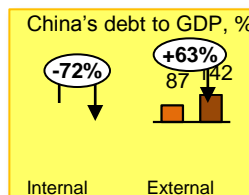
**2** • The total reserves of China are **22 times** higher than monthly import

**3 China's debt** is mostly internal

**4** • The current account of the balance of payments is essentially **superfluous**

**5 Inflation** is low, which gives flexibility of manoeuvre for Central Bank of China

■ - 1997 ■ - 2015



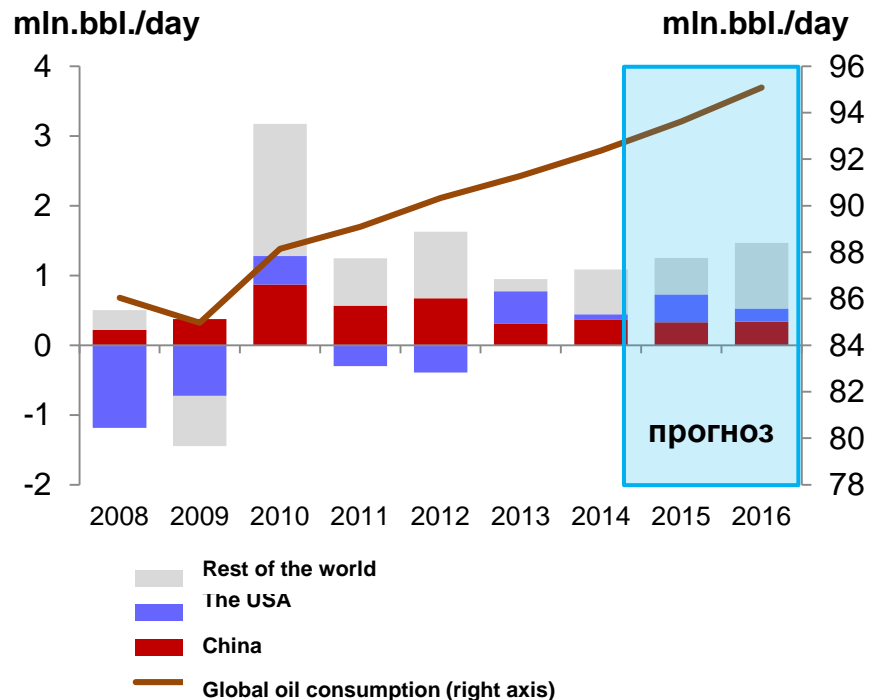
- The Asia-Pacific Region countries today are much stronger than in the late 1990s and much less susceptible to currency speculations
- Growth of the world economy depends more on China and the Asia-Pacific Region and, hence, other countries will adapt in order to support their trading partners
- Currency reserves, low interest rates and inflation (both in the Asian countries and other regions) give a significant flexibility in response measures on crisis prevention
- Taking into account the crises in the Middle East, Latin America and Europe, the market get used to volatility and work in the time of uncertainty



# Fundamental demand for oil on the part of China has a stable character

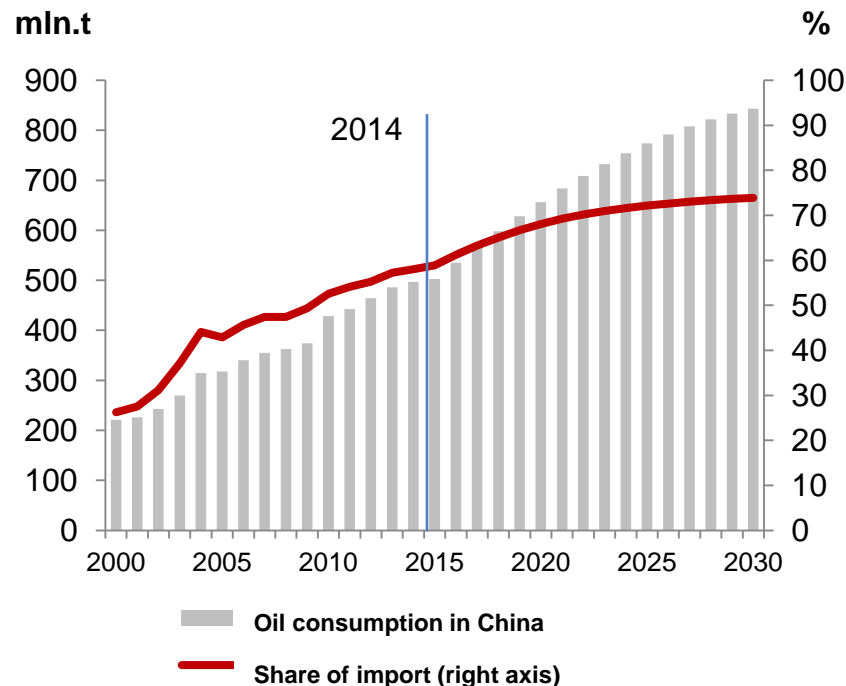


## Global liquid hydrocarbons consumption in China, the USA and rest of the world



- In addition to growing demand for liquid hydrocarbons in China in 2015-2016, significant growth of consumption is expected in the USA and a number of new fast growing economies (India and others)

## Oil consumption in China until 2030

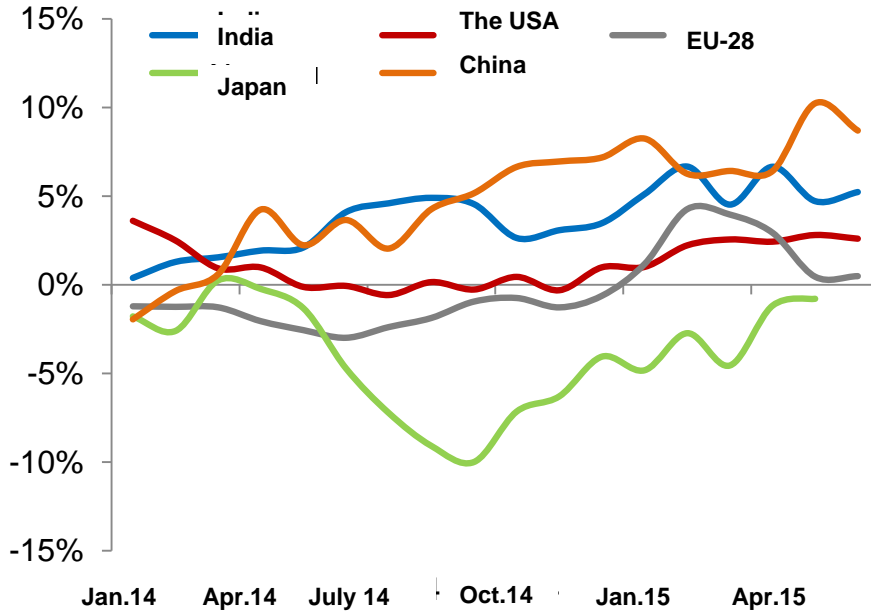


- In 2014 oil consumption in China exceeded 500 mln.t, and the share of import in consumption - 60%
- In 15 years, according to our estimates, China will consume 850 mln. tons of oil, i.e., 350 mln. tons of oil more than now, at that, internal production growth is insignificant

# Oil and petroleum products price reduction has led to accelerated growth of demand for liquid hydrocarbons both in developed and developing countries

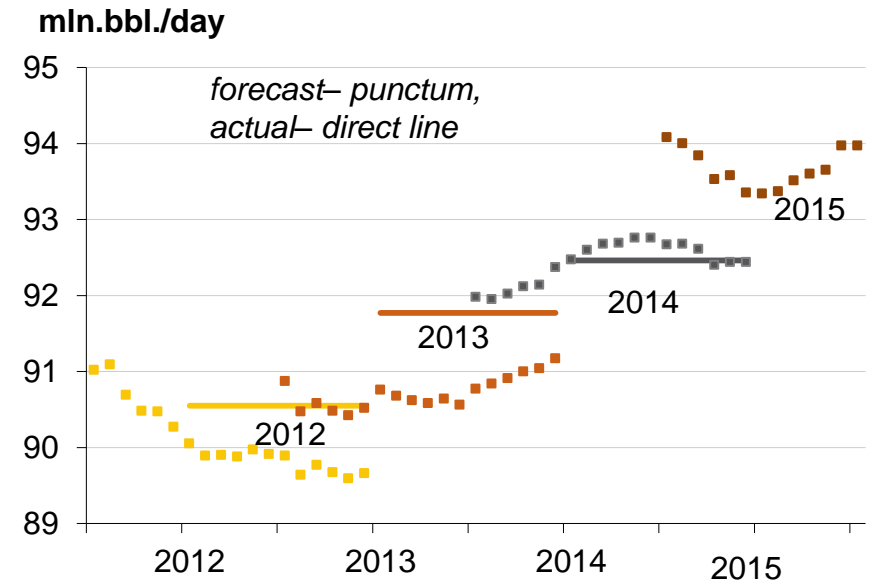


## Growth of liquid hydrocarbons consumption



- ▶ Rate of demand for liquid hydrocarbons in consuming countries has been growing in the first half of 2015
- ▶ Accelerated rate of demand was evidenced both in developed and developing countries

## Forecast vs actual values of global liquid hydrocarbons consumption

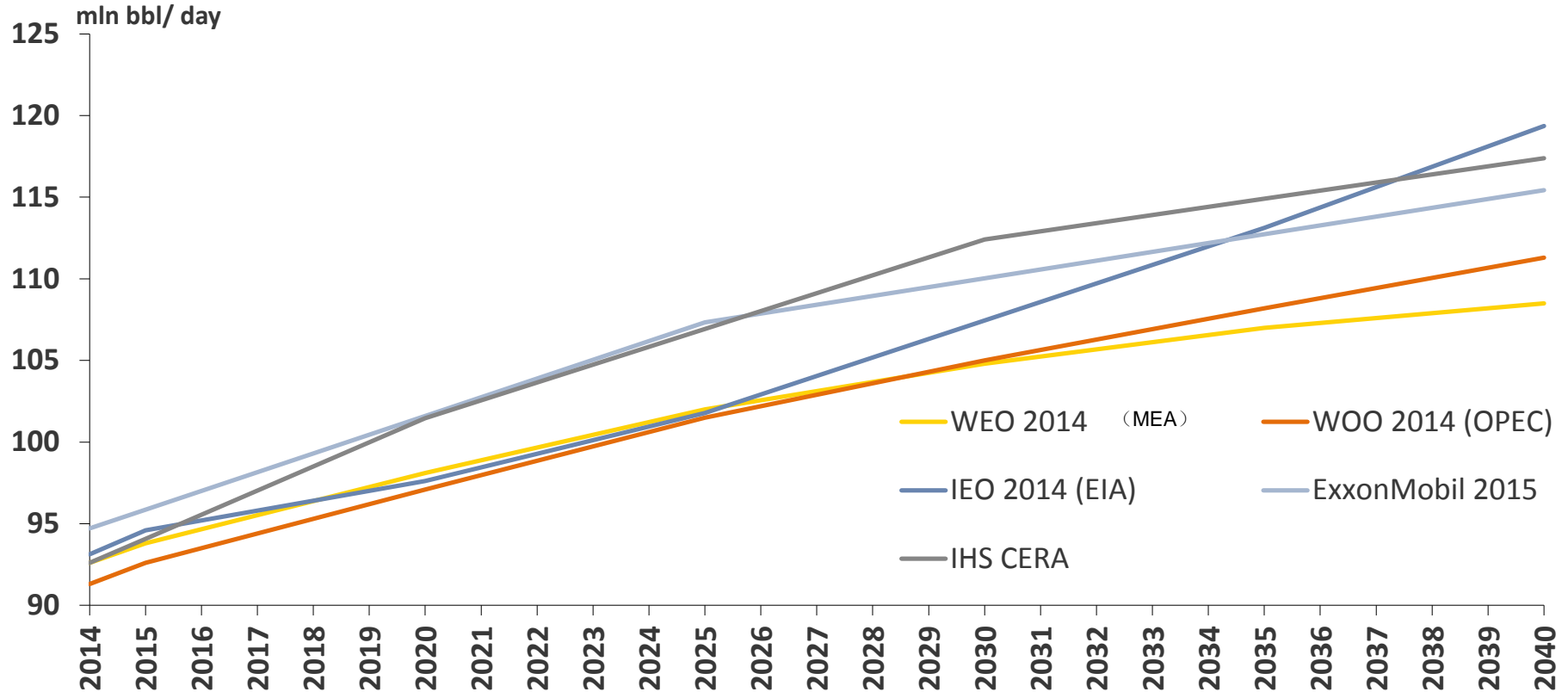


- ▶ The leading energy agencies are revising their forecasts on the global oil consumption towards upside
- ▶ According to EIA estimate made in August, global oil consumption will be at the level of 94,2 mIn.bbl./day (+1,6 mIn.bbl./day YoY), which is 980 thous. bbl./day higher compared to January 2015 forecast.

# In the Longer term run oil will keep the key role in the global power balance



Forecast of the global demand for liquid hydrocarbons

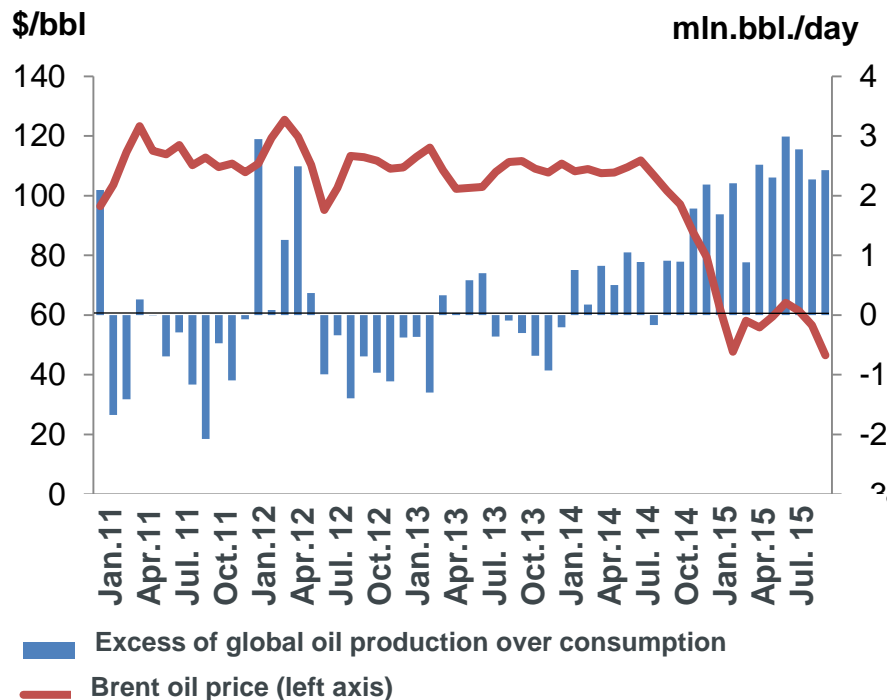


- ▶ According to majority of power agencies, the demand for liquid hydrocarbons in the long-term period will steadily grow
- ▶ Liquid hydrocarbons will make about ¼ of the world power balance within the next 15-20 years.

# Fundamental cause of low oil price is excess of oil production over its end consumption

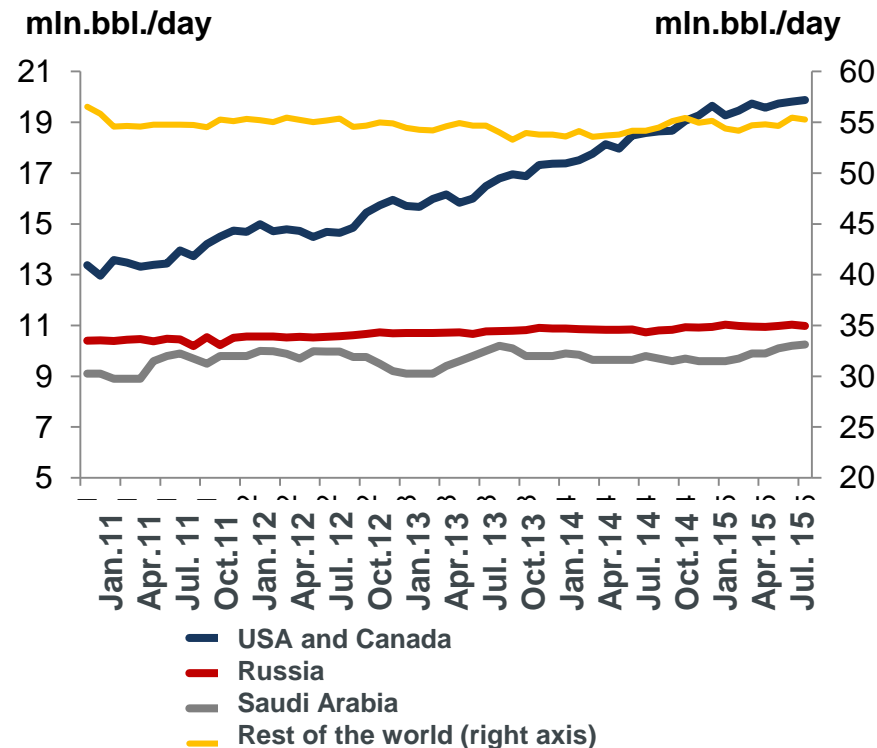


## Excess of global oil production over consumption



- ▶ Steady excess of global oil production over consumption appeared in 2014, which has resulted in fall in prices
- ▶ In 2015 oil offer exceeds the demand by 1,5-3 mln.bbl./day

## Surplus of global supply oil production



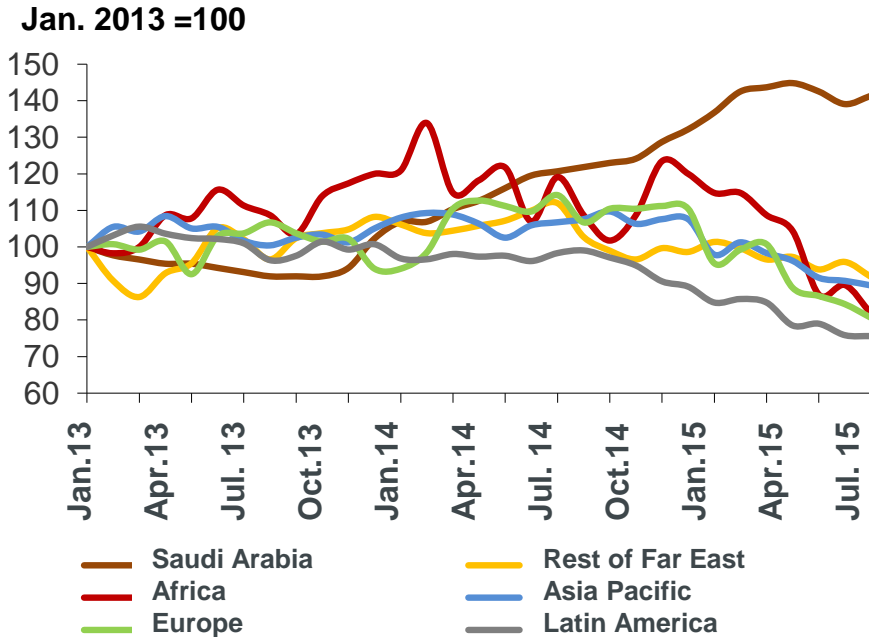
- ▶ The global hydrocarbons production during recent years was growing primarily at the expense of the USA and Canada, where “shale revolution” occurred

# Drilling activities all over the world are slowing down

## Exclusion: Saudi Arabia

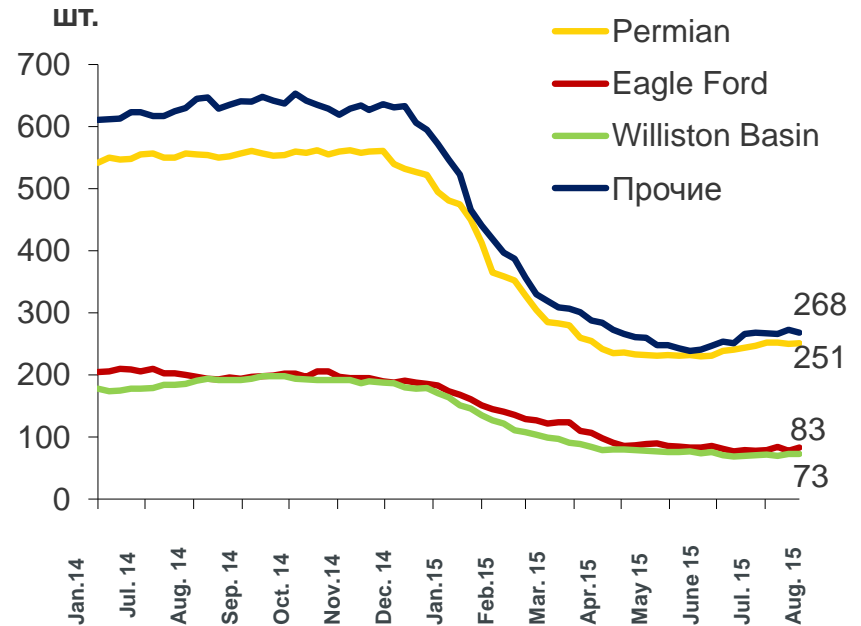


Number of drilling rigs (except for North America and CIS)



- ▶ All over the world under influence of low oil prices the drilling activities is reducing since mid-2014.
- ▶ Drilling activities in Saudi Arabia were growing during past few months, and the total number of drilling rigs increased by 20 %.

Number of drilling rigs in the USA

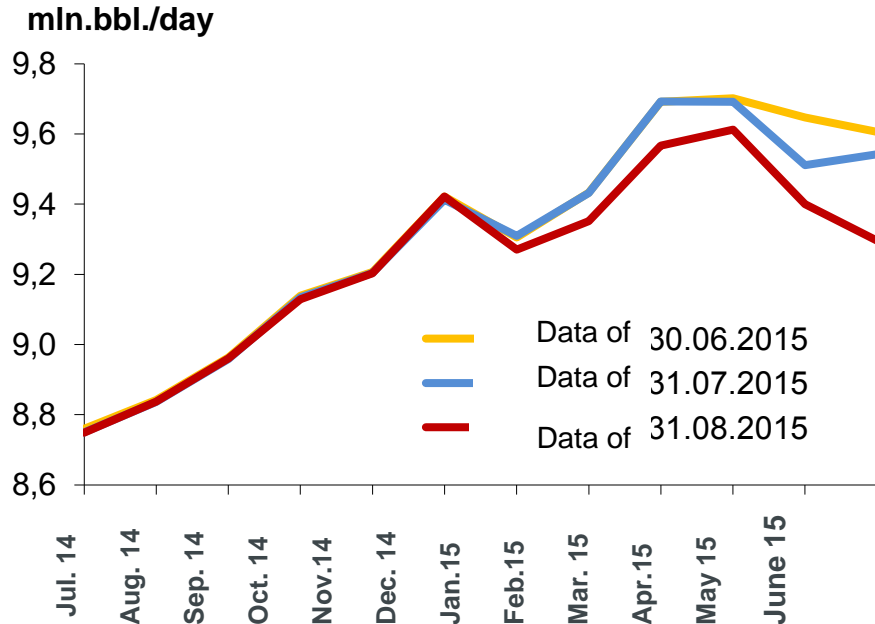


- ▶ Owing to reduction of drilling cost, the number of operating drilling rigs In the USA has stabilized after sharp reduction in the second half of 2014.
- ▶ In general, the number of drilling rigs in the USA in the 1st half of 2015 reduced 2 - 2,5 times.

# Due to reduction in oil prices and drilling activities, the production of liquid hydrocarbons in the USA is falling

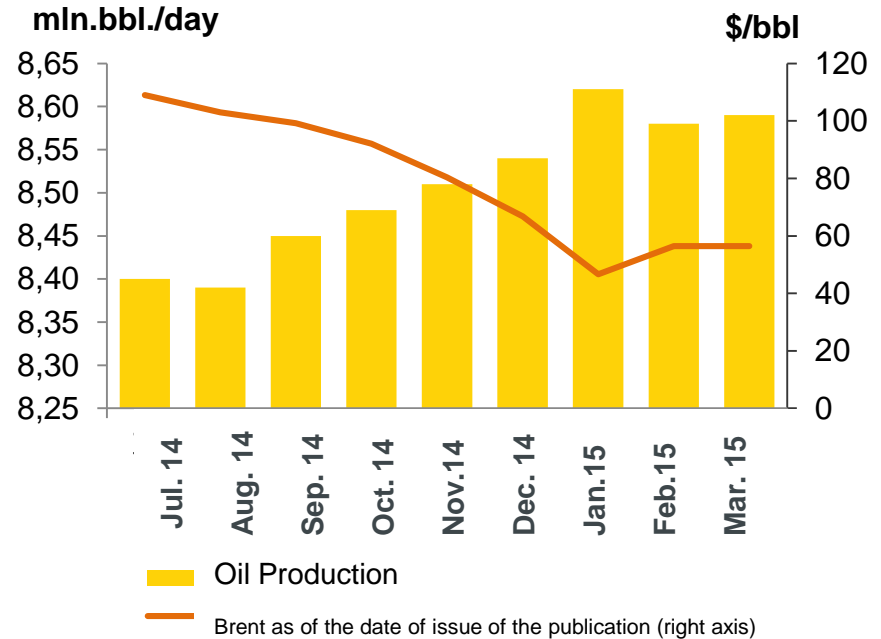


## Crude oil production in the USA



- ▶ According to the EIA estimate made in the end of August, crude oil production in the USA was reducing from May to June 2015, having completely compensated the growth of January to April 2015.
- ▶ During last three months the actual data on oil production in the USA were revised towards downside.

## Revision of crude oil production in the USA in Q2 2014

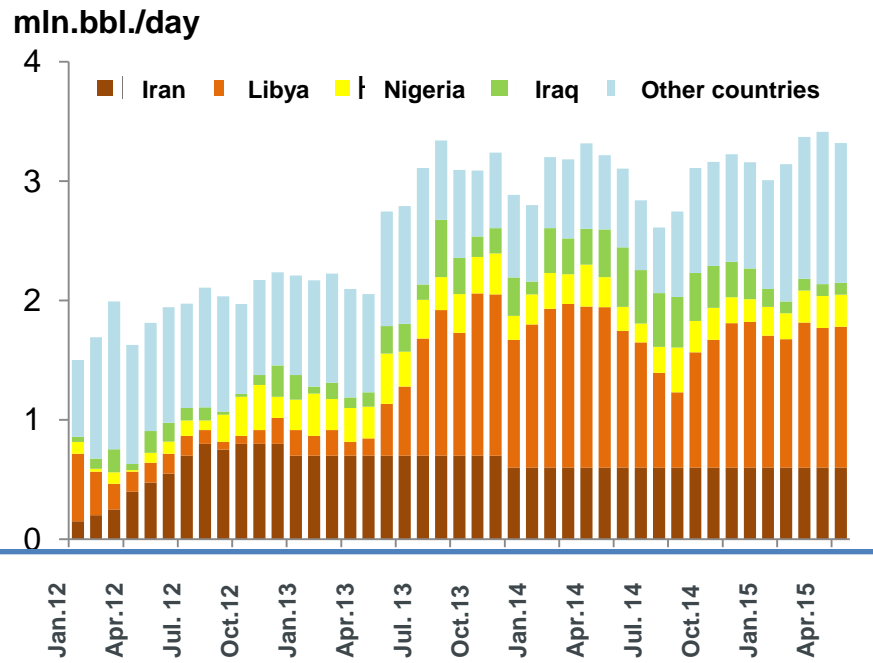


- ▶ EIA revises not only the forecast estimations, but also historical data, “adapting” them often to the current conjuncture.
- ▶ All above-mentioned undermines credibility of such publications and creates preconditions that unfair market participants create the corrupted representation of its dynamics.

# A number of factors may delay balancing of the world oil market

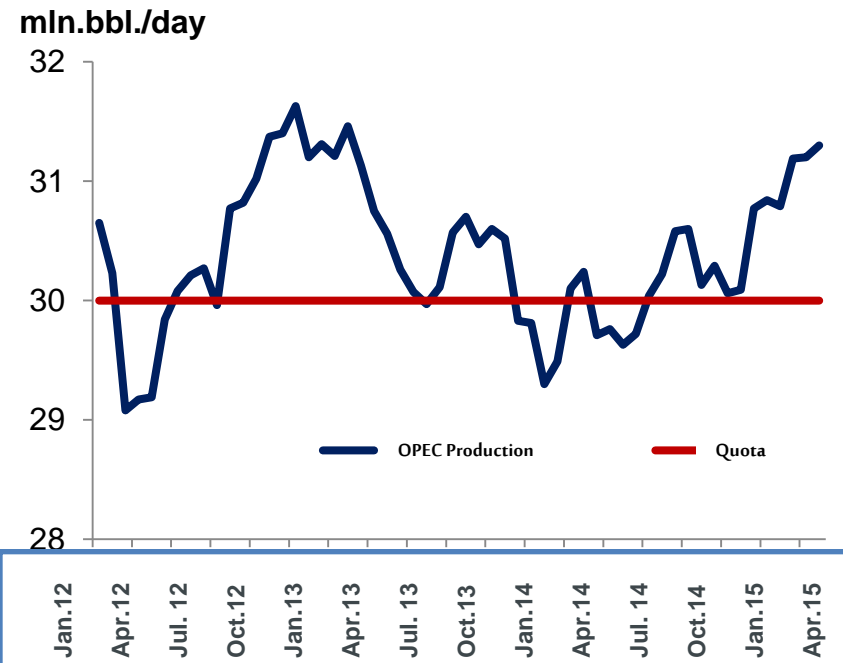


## Non-planned downtime of oil producers



- Gradual removal of sanction from Iran will lead return to the market of no less than 0,6 mln.bbl./day oil from this country
- In case of settlement of Libyan conflict, the market will get another 1,0-1,2 mln.bbl./day oil

## Crude Oil Production in OPEC

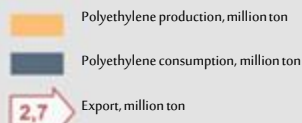


- Currently the total volume of oil production by OPEC countries exceeds significantly the official quota of 30 mln barrels per day.
- A number of OPEC member-countries express their growing concern of low prices, which threatens their stability, and put forward relevant initiatives.

# CHINA IS A MAJOR DEFICIT PE MARKET IN 2020; EXPORT FROM ALL SURPLUS REGIONS OF THE WORLD, PRIMARILY FROM THE MIDDLE EAST AND NORTH AMERICA



Forecast for production, consumption, and main flows of (high and low pressure) polyethylene trade in 2020 in case of implementation of all announced projects, million ton

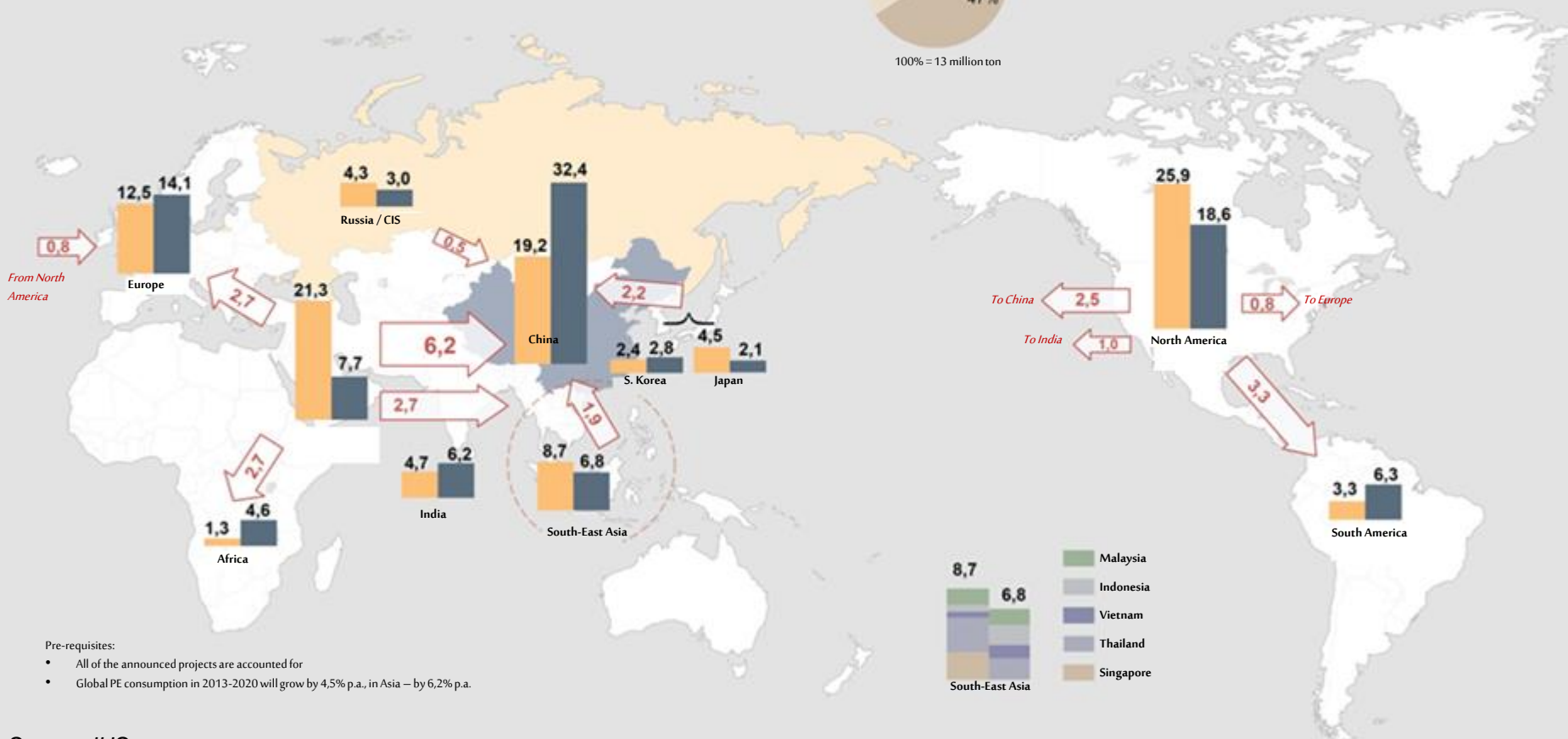


Global production in 2020 is 110.5 million ton

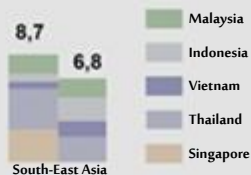
China import structure until 2020



Share of Russia may significantly increase up to 15-20%



- Pre-requisites:
- All of the announced projects are accounted for
  - Global PE consumption in 2013-2020 will grow by 4,5% p.a., in Asia – by 6,2% p.a.

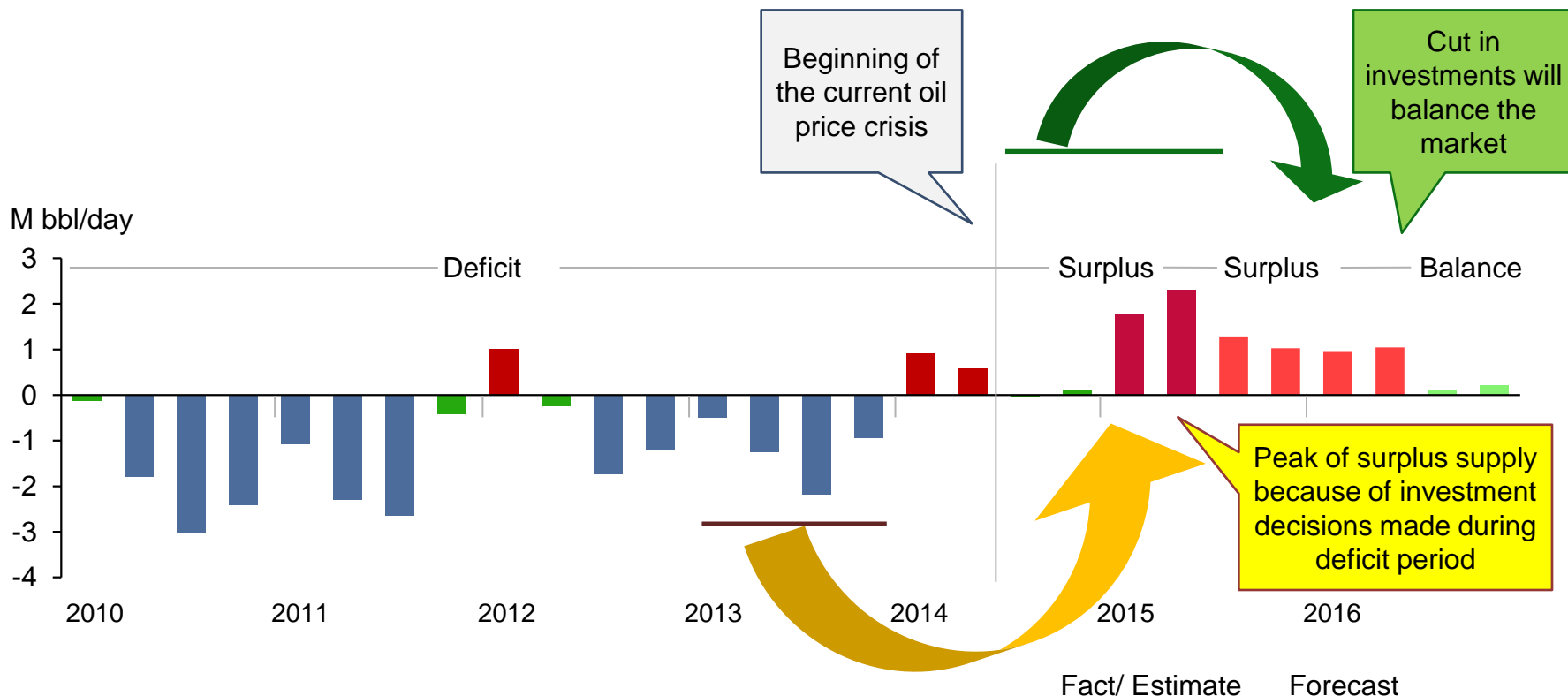




# The investments made into production still bring volumes to the market, but decreased investment is already taking its toll



The world oil market has been in the deficit for 4 years, now – slight surplus

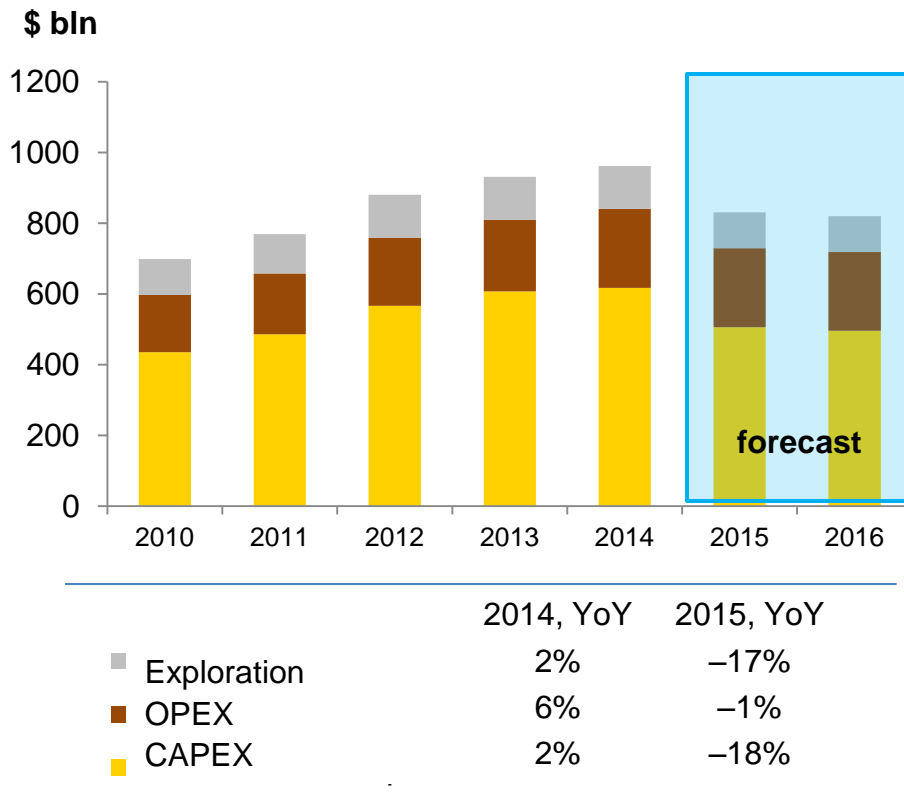


Investments made during the period of oil shortage explain the W-shape of the price curve

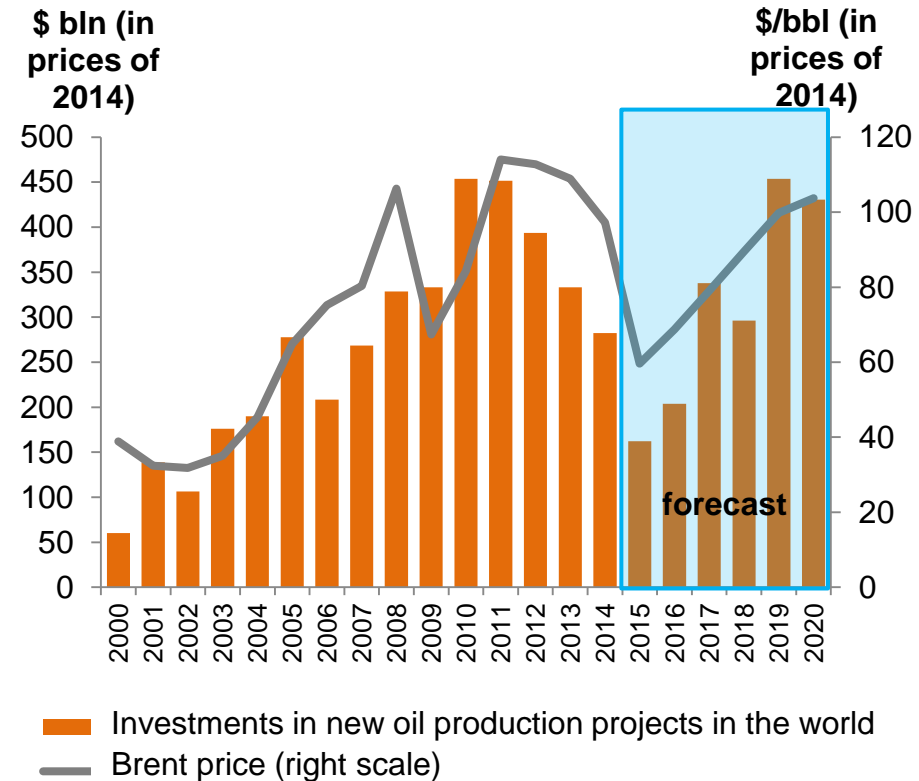
# Decrease of investments in production: in 2015 – by \$137 bln, down to \$200-250 bln by 2016



## Costs of exploration and production in the world



## Investments in the new oil production projects

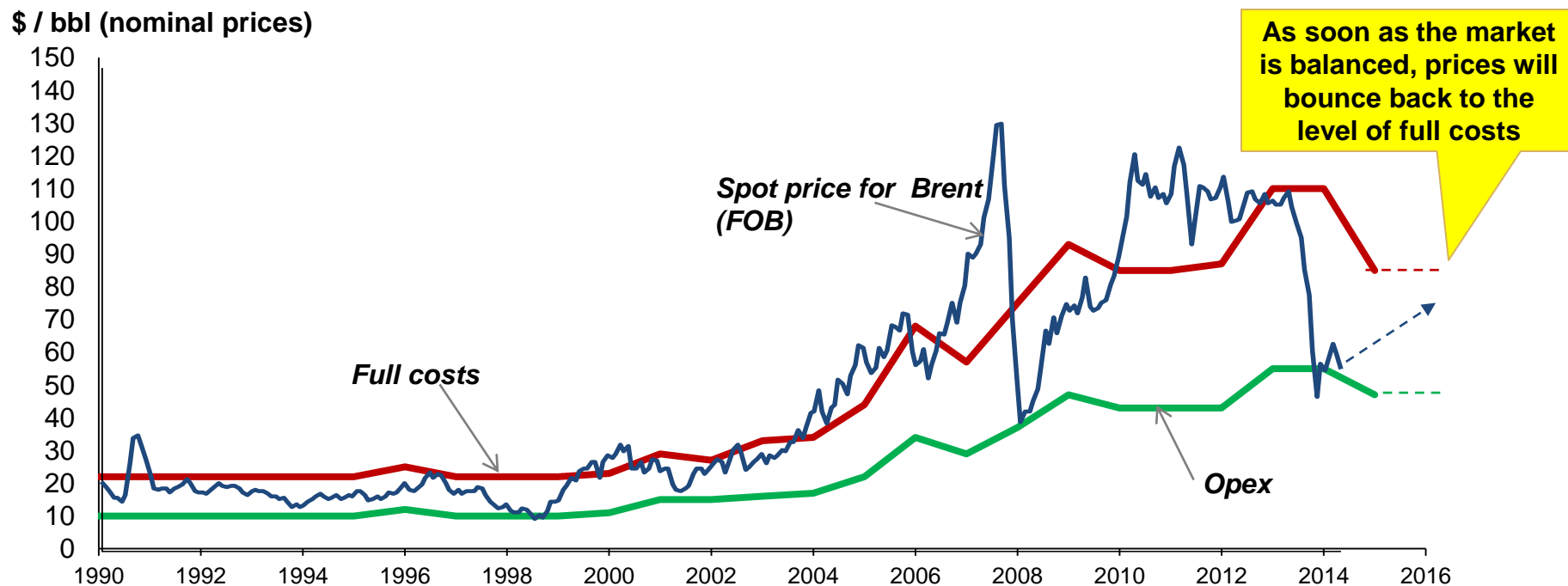


- ▶ Based on Rystad Energy evaluations, E&P costs in the world in 2015 will decrease by \$180 bln vs the previous year. The highest rate of decrease is observed in the North America, mostly in the US.
- ▶ CAPEX will decrease by almost 20%, and investments in the new projects well go down even more - by 40%.

# When the market is balanced, the prices will return to the full cycle costs level



## Spot prices, opex and full costs of oil suppliers



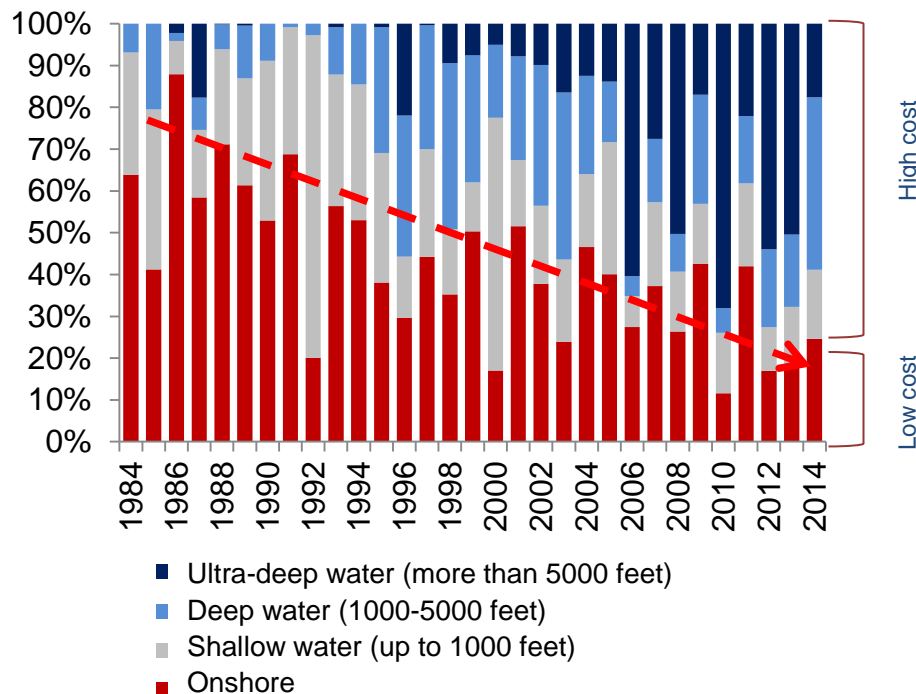
### We should remember about the price limits:

- ▶ Oil price should exceed the OPEX level of suppliers bearing maximum costs (marginal suppliers)
- ▶ The balanced market implies that oil price exceeds full costs of production
- ▶ In the periods of deficit the price, naturally, may exceed all costs
- ▶ Current oil prices are at the level of OPEX. This is not enough for sustainable production

# Hi-tec oil resources will be in greater demand and will determine the limits of full costs in future

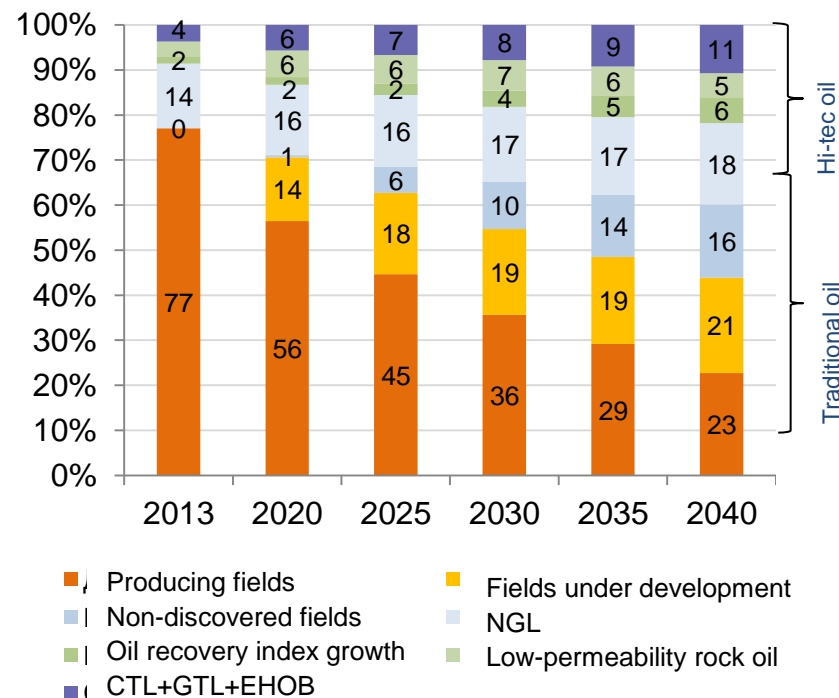


## Structure of newly discovered oilfields depending on formation depth\*



▶ Percent of more expensive deep fields grew up significantly. Such oil will prevail in future discoveries too.

## Forecasted structure of liquid HCs global production



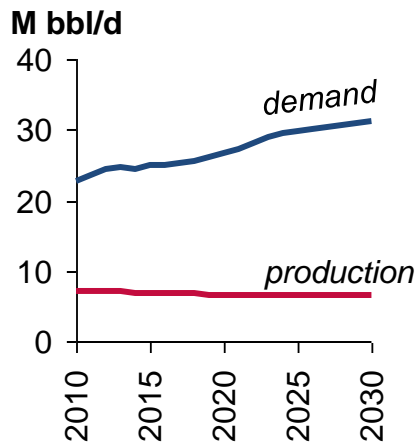
- ▶ Oil industry technological development plays a key part in ensuring of its competitive ability.
- ▶ Traditional oil will be replaced with hi-tec oil, the percent of which will kite, approaching to 30%-40% in 2040.

Note: \* not accounting for the onshore fields in Canada and the US (below 48 parallel) and shallow fields in the US

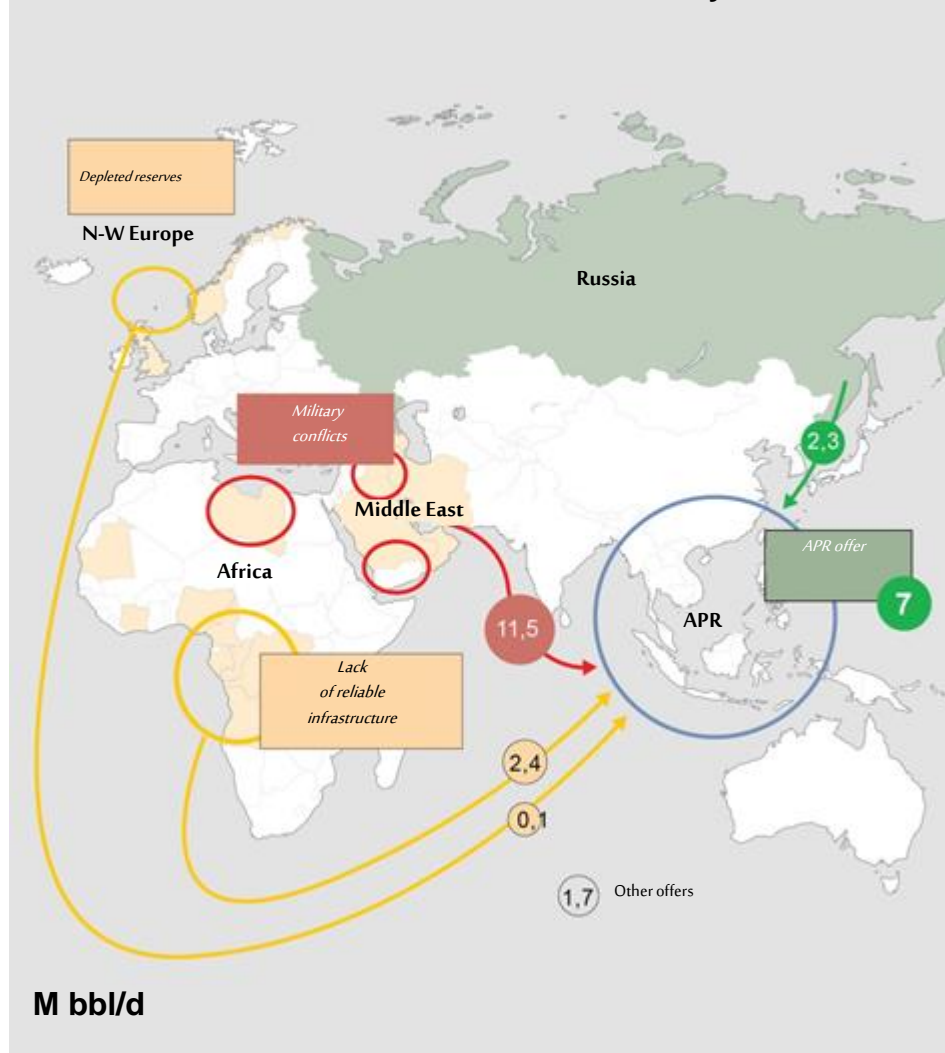
# Deficit of own oil resources in Asia is growing, new Asian discoveries are expensive, while supply security is extremely important



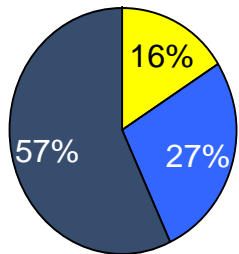
## Asia's need for import is growing



## Asia highly depends on oil import from regions where supply is either exhausted or a serious risk of delivery failures exists



## Field discoveries in Asia are mostly deep water and expensive



- Onshore
- Shallow water
- Deep water

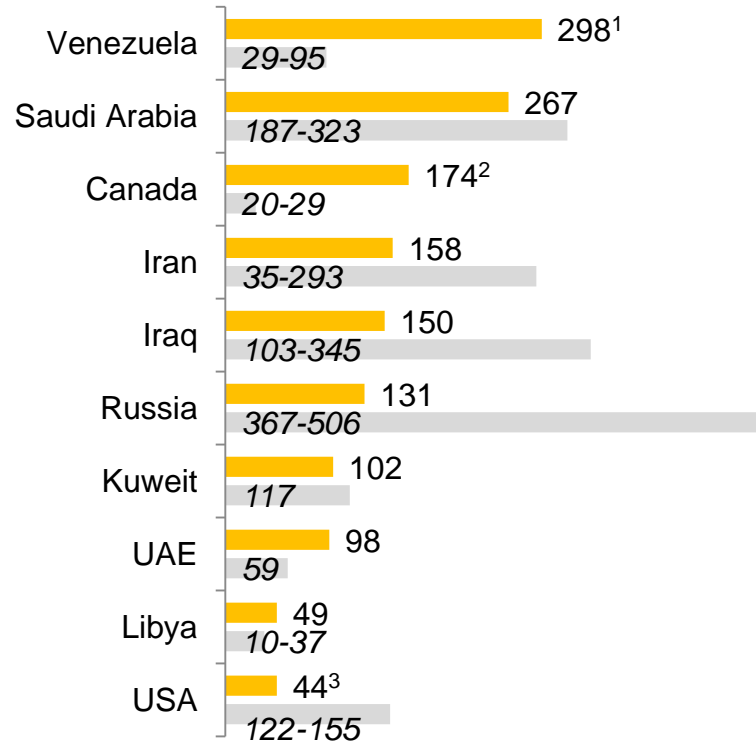
## Comments

- ▶ Asia demand is growing fast, however, production forecast is falling far behind
- ▶ Asian discoveries in 2015 were mostly expensive and technically complicated in deep waters
- ▶ Sustainable growth required uninterrupted supply for decades
- ▶ Transportation distance for supplies from Russia to partners in AP is less than from other oil producing regions



# Countries with large oil and gas reserves

## Top-10 countries in terms of oil reserves, bln bbl

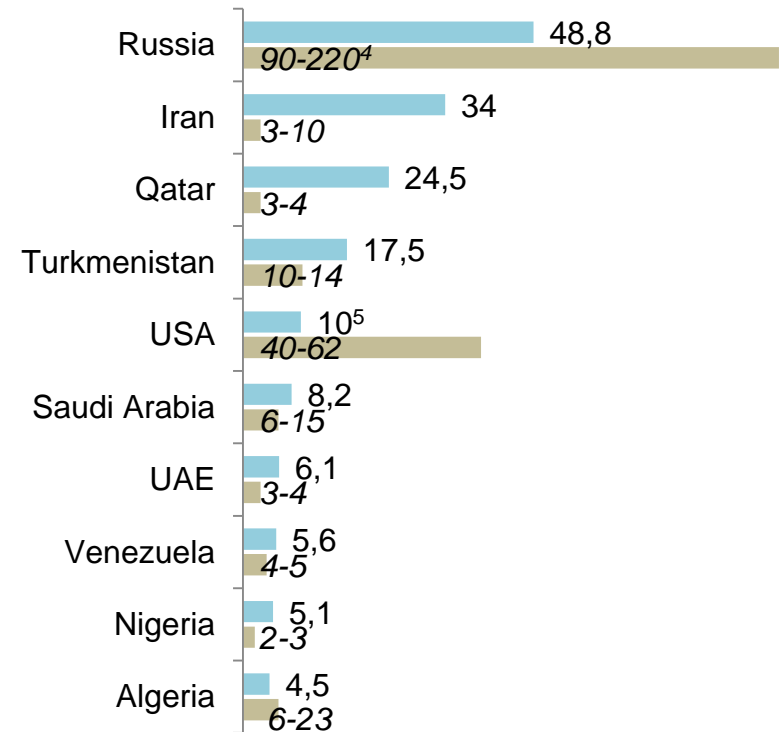


■ Proved reserves      ■ Recoverable reserves

**Note:**

- (1) incl. 257 bn bbl of ultra-heavy oil
- (2) incl. 170 bn bbl of bitumen
- (3) incl. 10 bn bbl of shale oil

## Top-10 countries in terms of gas reserves, trln m3



■ Proved reserves      ■ Recoverable reserves

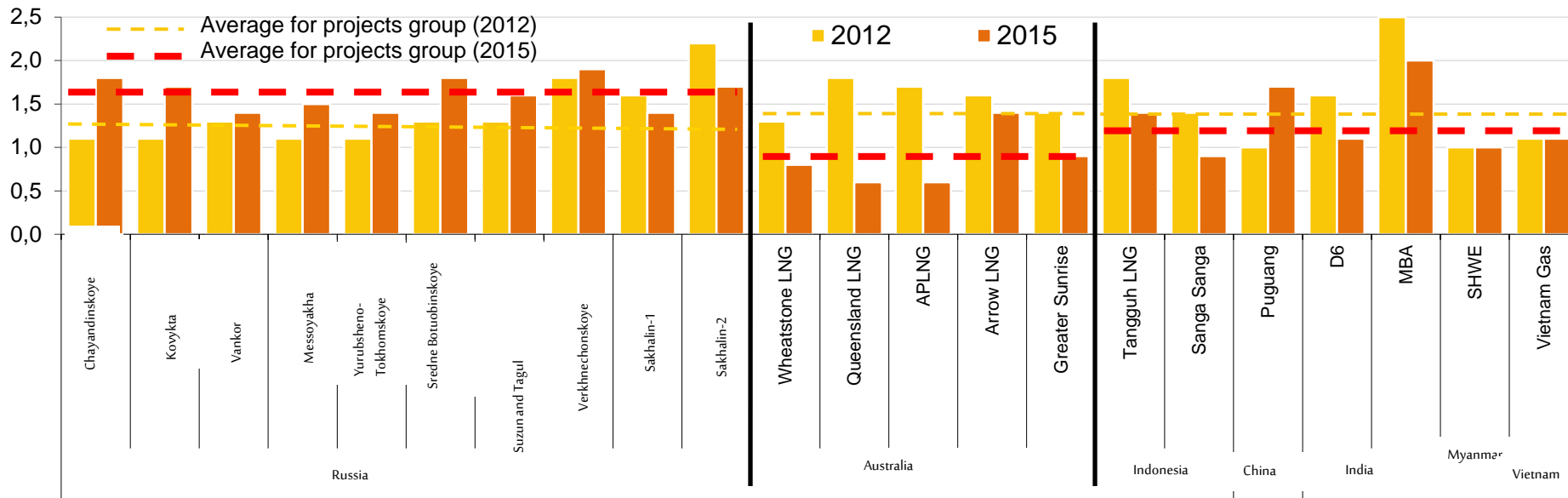
**Note:**

- (4) incl. shale gas
- (5) incl. 4.5 tn m<sup>3</sup> of shale gas

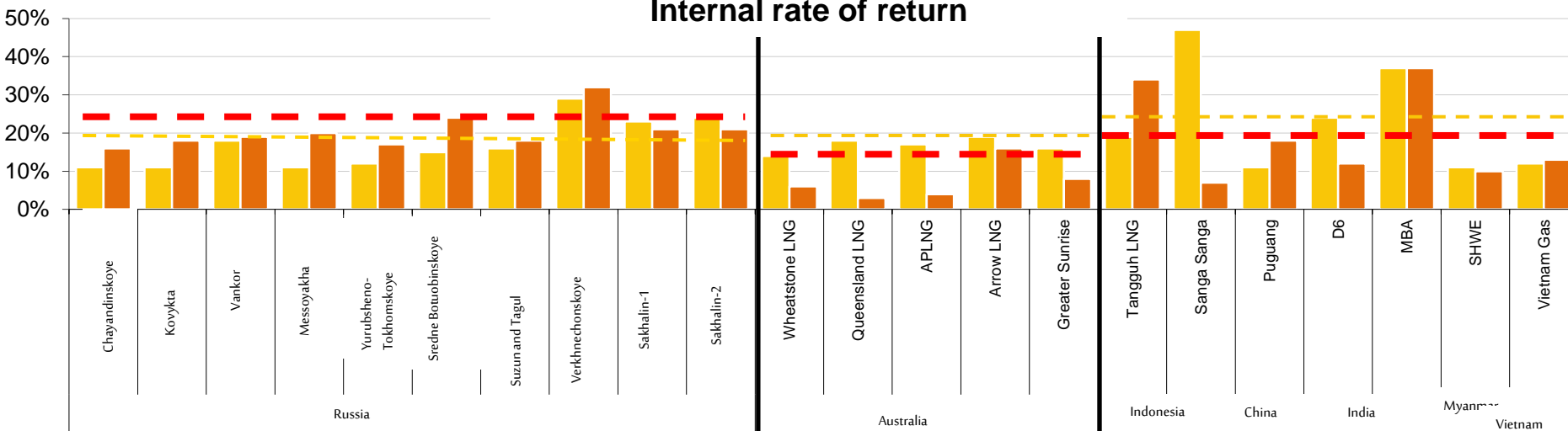
# Production projects in East Siberia are more competitive than other AP projects



## Profit/investment ratio



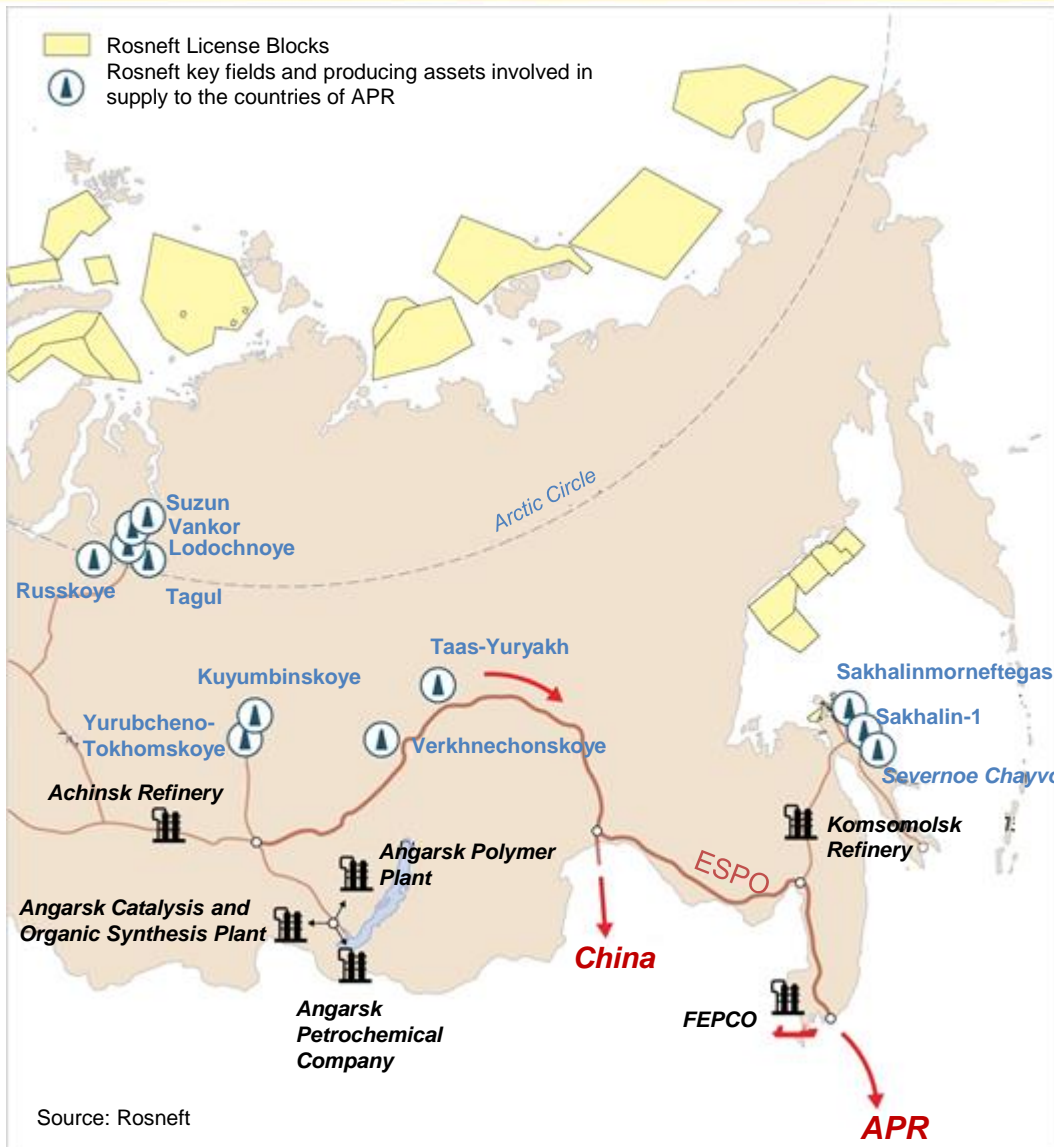
## Internal rate of return



# The more actively we develop the potential of Russia's East, the more secure are oil supplies to APR



- Rosneft License Blocks
- Rosneft key fields and producing assets involved in supply to the countries of APR



- Russia is a **reliable partner** for oil supplies to AP
- Russia is **open for cooperation** in upstream with international partners
- The existing tax treatment for different fields increases **investment appeal**
- **There are possibilities** for joint development of diverse portfolio of fields:
  - **Conventional** onshore fields
  - **Offshore** fields
  - **Arctic** fields
- Vast internal market and export capabilities ensure high potential of **oil refining and petrochemistry**





**Thank you for your attention!**

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