



## GLOBAL OIL MARKET TRENDS AND RUSSIA'S ENERGY STRATEGY

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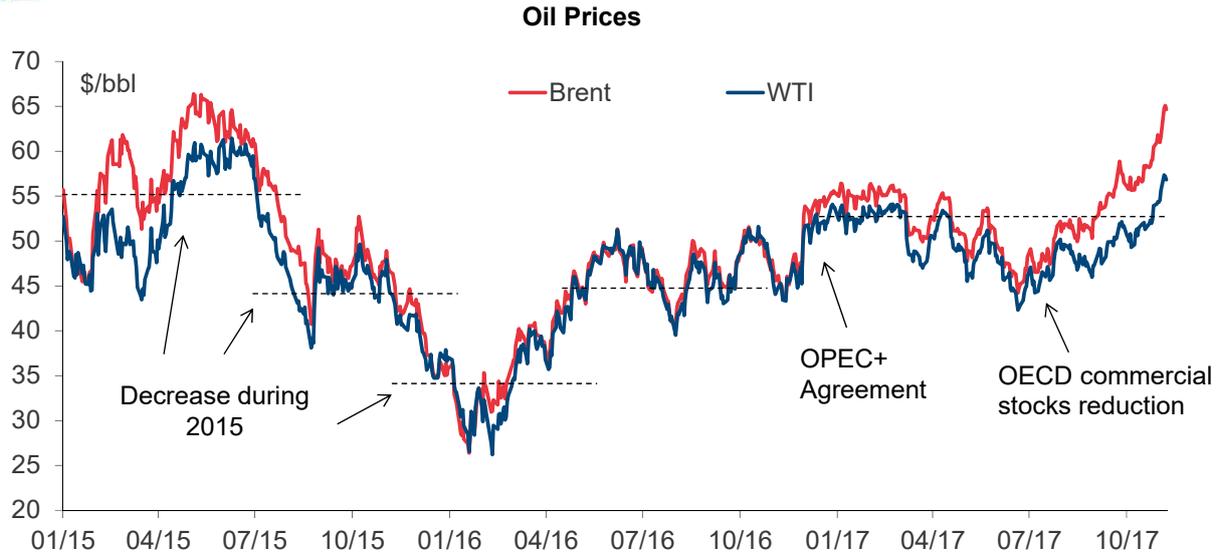
The Tenth Japan-Russia Energy and Environment Dialogue (JREED)  
Niigata, Japan  
14<sup>th</sup> November 2017



# Global Oil Market Trends



## Global Oil Market Have Stabilized after 2015-2016 Turmoil



Source: Bloomberg

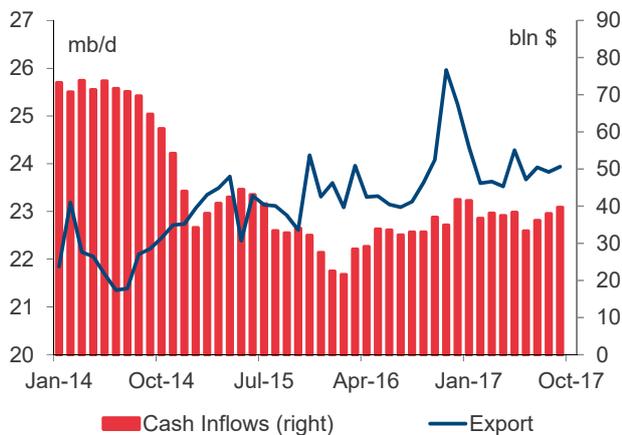
- OPEC + Non-OPEC countries November 2016 decision to cut production (the Agreement) supported global oil prices and reduced price volatility.
- In January-October 2017 Brent price was \$ 6.2 per barrel higher than before the Agreement. Also the prolongation of the Agreement in late May 2017 supported prices.
- In November 2017 the oil price has hit \$64-65/bbl (Brent). It's highest level since July 2015.

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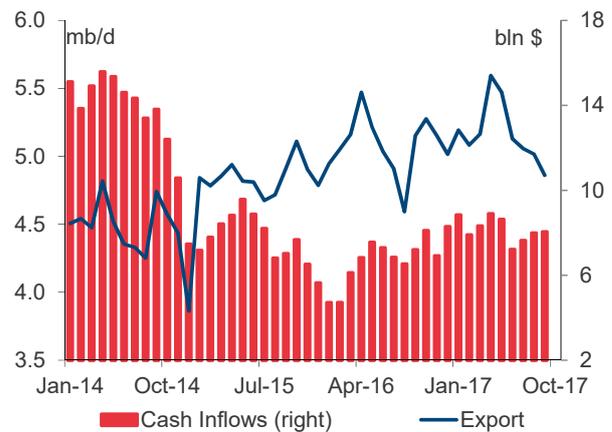
## The Agreement to Cut Production Allowed Its Participants to Increase Revenues from Oil Exports

**Crude export volumes and export values for OPEC**



Source: JODI, EIA

**Crude export volumes and export values for Russia**



Source: Ministry of Energy of Russian Federation, Bloomberg

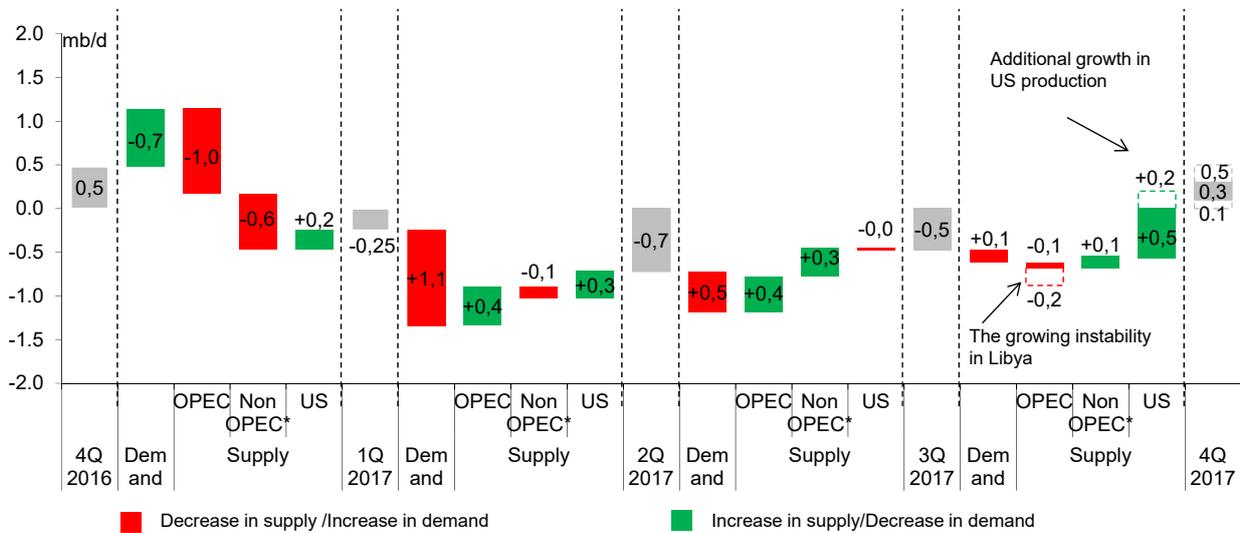
- The agreement allowed OPEC countries and Russia to increase the estimated level of export value in January-October 2017 by 14-15% compared to April-December 2016, despite the fact that there was a significant increase in exports at that times.
- Cooperation had a positive financial effect for the participating countries compared to the simple increase in exports and the struggle of producers for market share.

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## The Global Oil Market Have Enter a Deficit Already at the End 2Q17 Due to the Prolonged Agreement

Changes in global liquid fuels market balance



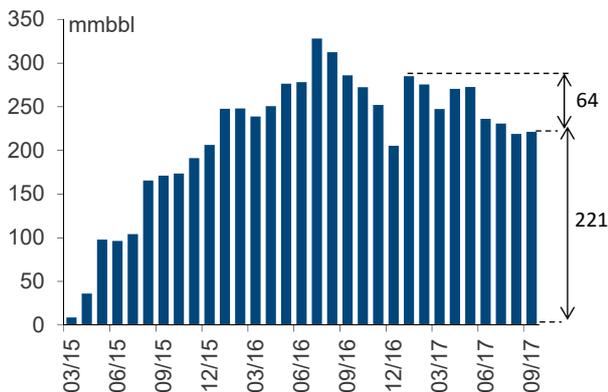
\* Not including US  
Source: IEF estimates bases on EIA, МЭА, ОПЕК data

- The implied market excess in 4Q16 was 0.5 mb/d. The implied market deficit in 2Q16 was 0.7 mb/d.
- There is a risk of the returning to an excess liquids supply of 0.1-0.5 in 4Q 2017.



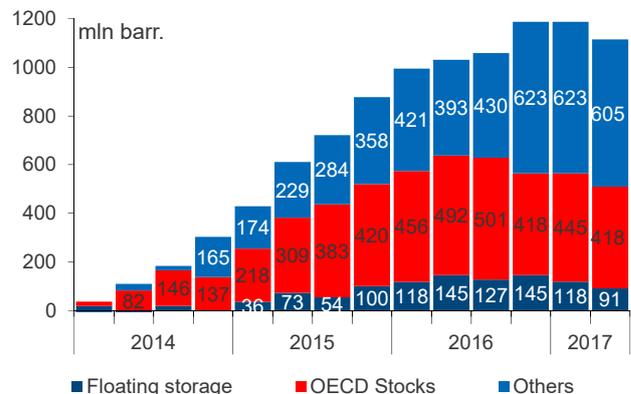
## OECD Stocks Began to Decline, but Still Remain Significantly above the Average Level of 2012-2016

OECD Industry Stocks in comparison with the average level of 2012-2016.



Source: EIA

The structure of the accumulated global oil imbalance



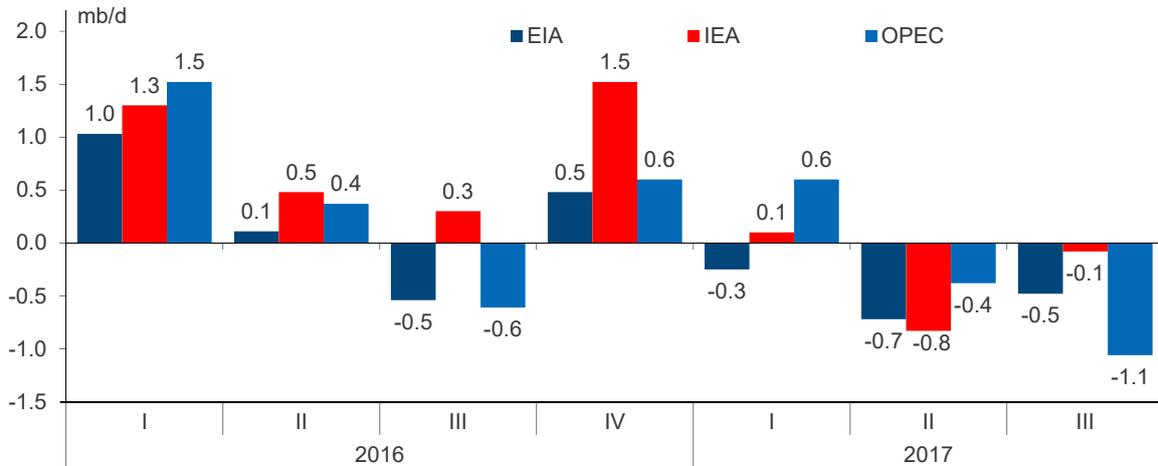
Source: IEA

- The decline in OECD stocks began only in June 2017 - 6 months after the beginning of the OPEC+ Agreement.
- The Agreement reduce OECD industrial stocks by 64 mmbbl. It equals 23% of the reduction to an average level of 2010-2014.
- The market does not have a source of reliable estimates of stocks in developing countries (about 52% of the world oil market imbalance).



## Experts Have No Understanding of the Current (and Historical) Level of Imbalance in the Global Oil Market

Estimates of the supply surplus in the world market of liquids according to various energy agencies



Source: EIA, IEA, OPEC

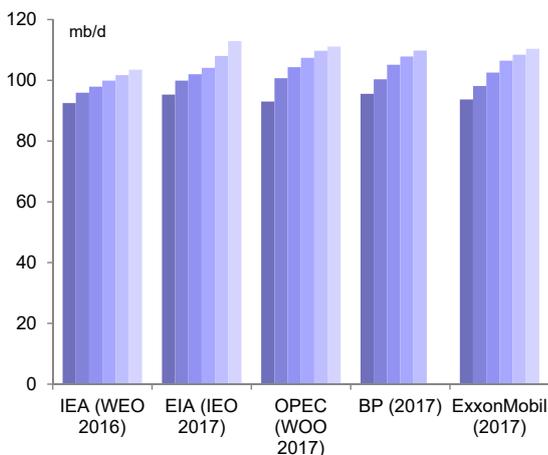
- Main energy agencies have significant discrepancies in estimating the magnitude of the imbalance in the global liquids market - for 3Q17 from 0.1 to 1.1. mb/d.
- There are significant discrepancies in the statistics and forecast of oil demand. Seasonal growth in consumption in 3Q compared with 2Q is observed annually, but estimates of this growth in 2017 vary from 0.0 to 1.3 mb/d for different agencies.

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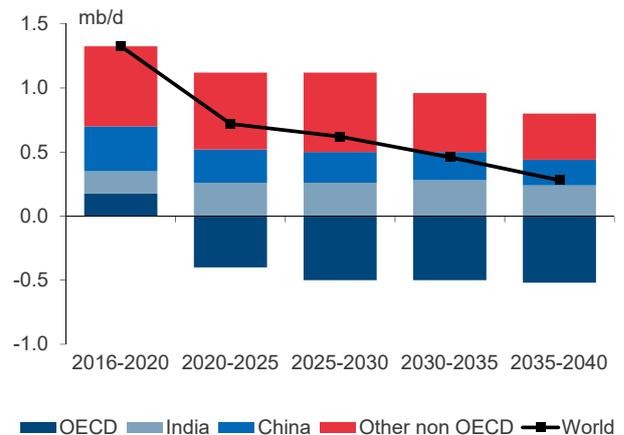


## Global Oil Demand Will Grow Steadily in the Long Run Due to Fundamental Factors

Long-term oil demand



Average annual oil demand growth (WOO-2017)



- Long-term oil demand is expected to increase by 16-18 mb/d in 2015-2040
- Oil demand in the Developing countries is expected to increase, on average, by 1 mb/d p.a., with China and India combined accounting for half of that growth.
- The change in the geographical structure of the liquid demand growth determines the interest of Russia in the Asia-Pacific markets.

Source: EIA, IEA, OPEC, BP, ExxonMobil



# Eastern Vector of Russian Energy Policy

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## In the Face of Uncertainty at the Global Energy Market Russia Has Realize an Energy Shift to the East

The shift to the East is a key priority of the Russian energy policy since 2009

### **The main targets of the Russian Energy Strategy up to 2035:\***

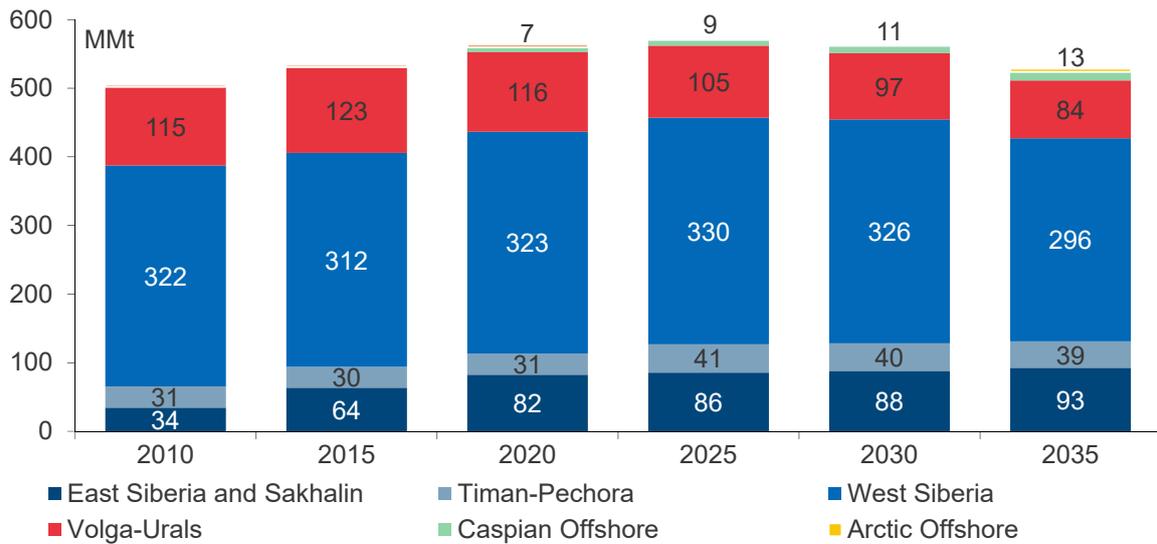
- The formation of oil and gas complexes with the development of production, transport, and social infrastructure in Eastern Siberia and the Far East
- Energy exports will increase by more than 20%, including in the Asia-Pacific countries by 2-3 times by 2035
- Share of the Asia-Pacific countries in the structure of the Russian energy export will increase to 30–40% by 2035
- Crude oil export will increase by 3 - 25%, exports to the Asia-Pacific countries in 1.7 - 2.3 times by 2035
- Natural gas export will increase by 1.2-1.8 times by 2035, including geographic diversification - increasing gas supplies, in the Asia-Pacific countries by 5-9 times. Growth of LNG production by 3-8 times
- The creation of new coal production centers in the Republic of Sakha (Yakutia), the Republic of Tyva, the Trans-Baikal Territory and other regions of Siberia and the Far East, capable of providing 1.5 times more growth in coal exports

\* the project is under consideration of the Government

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### Oil Production from East Siberia and Far East Continuing to Grow



- Oil production from East Siberia and Far East is projected to rise from 68.8 MMt (1.41MMb/d) in 2016 to 82.4 MMt (1.68 MMb/d) in 2020 and to 98.2 MMt (2.0 MMb/d) by 2040.
- These levels are achieved because both Sakhalin offshore development picks up and inland East Siberian development expands well beyond the first-generation fields currently in production (e.g., Vankor, Talakan, and Verkhne-Chonskoye).

Source: IHS Markit



### ESPO Is a Key Route to Deliver Russian Oil to the Asian Market



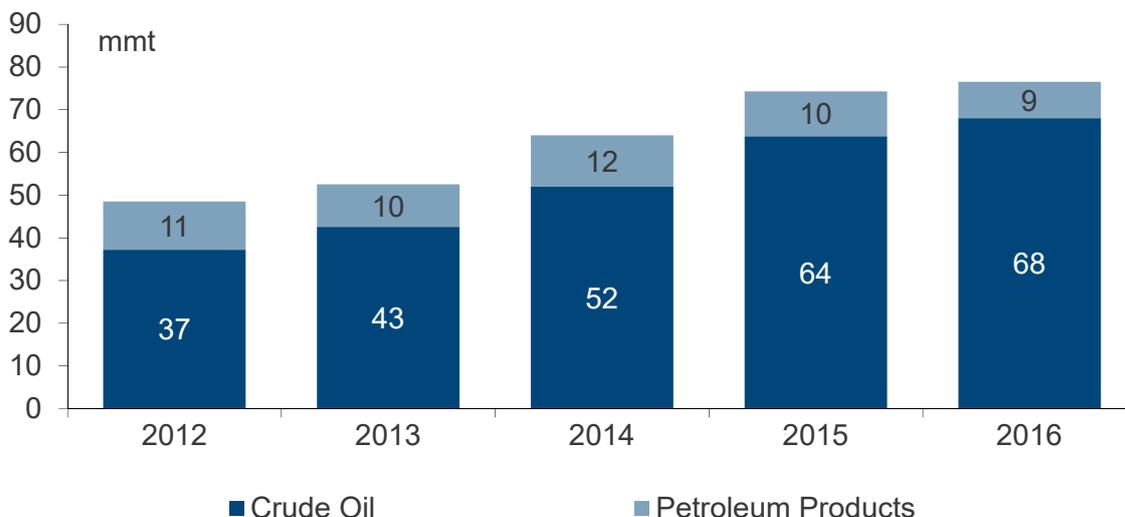
- Expansion of capacity for ESPO-1 was raised to 58 MMt/y (1.2 MMb/d) in 2016, and expansion to 80 MMt/y (1.6 MMb/d) is envisioned in 2020 (completed at the end of 2019)
- Capacity of the ESPO-2 is planned to be increased to 50 MMt/y (740,000 b/d) in 2020, commensurate with the expansion of the Kozmino terminal to 36 MMt/y.
- Capacity of the spur pipeline from Skovorodino to China was increased to 30 MMt/y in 2017

Source: Argus Media



## Russia-Asia Oil Trade

Crude oil and oil products export from Russia to China, Japan, India and South Korea



- Creation of an oil infrastructure in the East of Russia – the ESPO pipeline – and the long-term oil contracts increased oil export from Russia to Asia-Pacific countries

Source: UN Comtrade, Eurostat, National Statistical Bureau

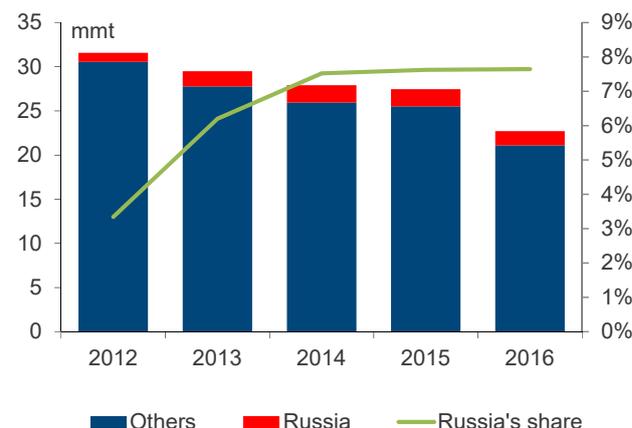


## Russia-Japan Oil Trade

Crude Oil Export from Russia to Japan



Petroleum Product Export from Russia to Japan



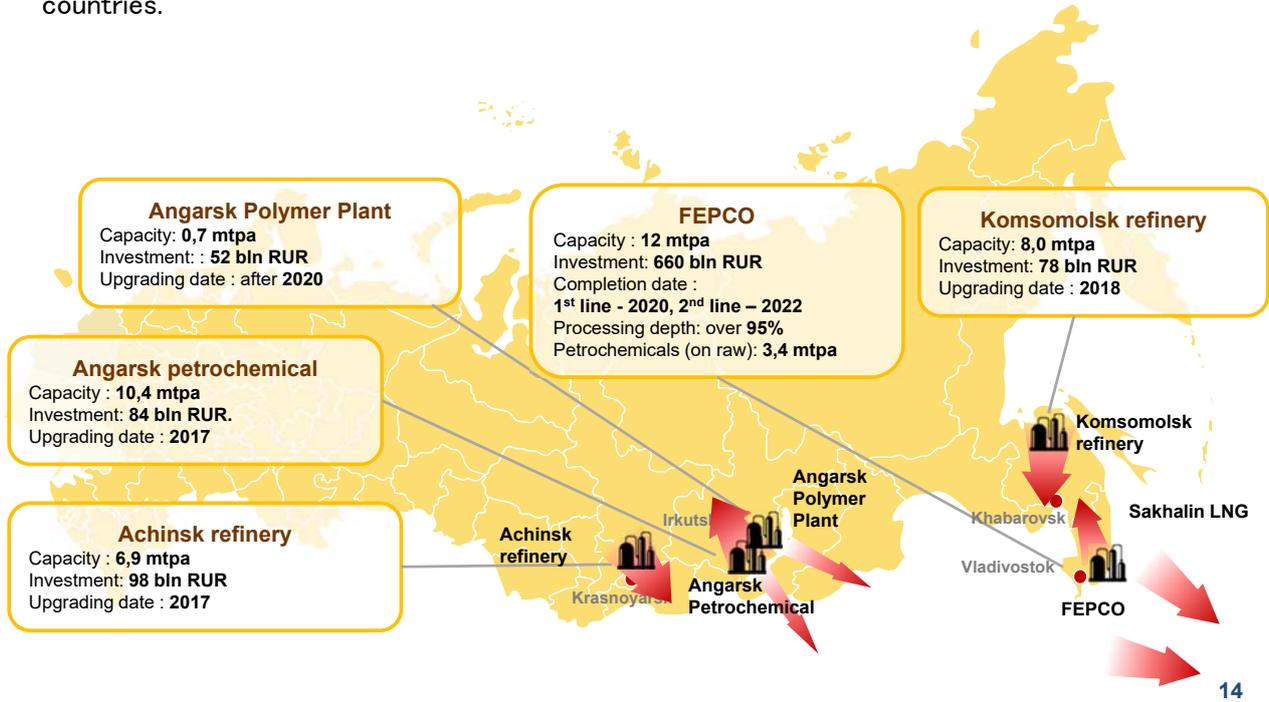
Source: UN Comtrade, METI-Japan, MOF-Japan

- Over the past 5 years, Russia's crude oil export to the Japanese market has risen from 150 kb/d to 200 kb/d, petroleum product from 1 mmt to 1,6 mmt annually
- Japan is also one of the top buyers of Russia's ESPO and Sokol crude.
- The average annual share of Russia in the Japanese crude oil and petroleum product imports is 7–9%



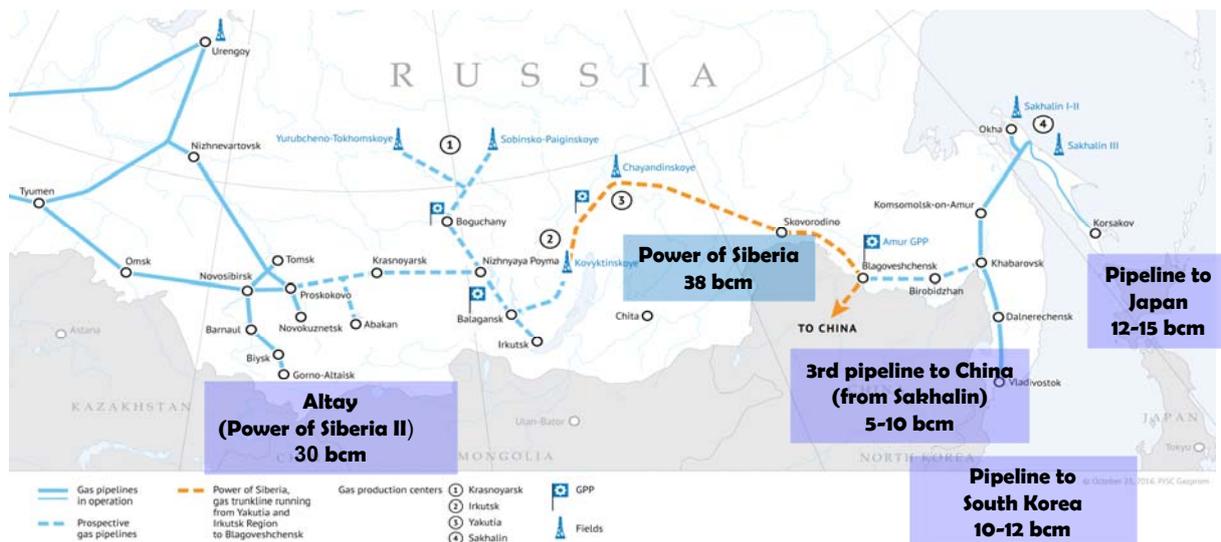
## Russian Eastern Petrochemical Cluster

- Petrochemical cluster develops, including in the framework of the Russian–Asian partnership
- The cluster will meet the growing demand for petrochemical products in Russia and in Asia–Pacific countries.



## New Gas Production Centers and Gas Pipelines Are Rapidly Evolving in the Eastern Russia

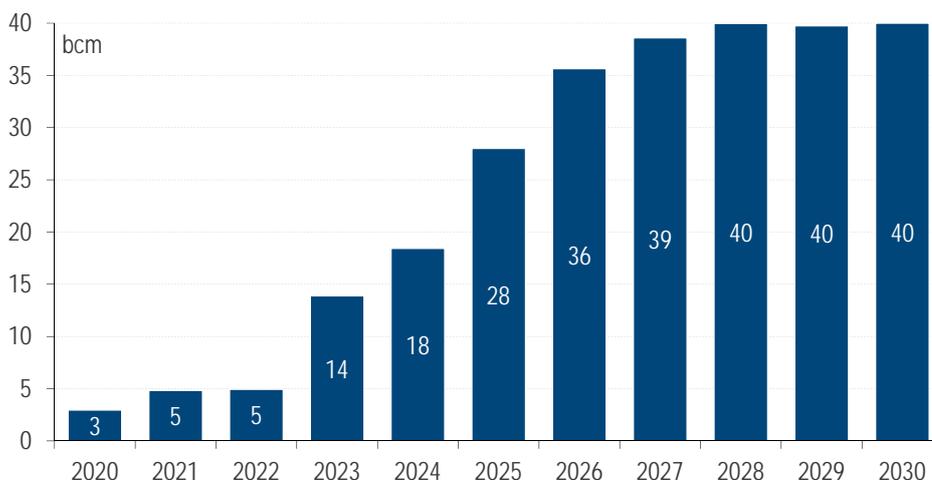
- The commercial A+B+C1+C2 gas reserves within Gazprom’s licensed areas in the Eastern Siberia and the Far East exceed 5 trillion cubic meters.
- In the Eastern Russia, Gazprom has built the Sakhalin – Khabarovsk – Vladivostok gas transmission system. At present, the Company constructs the Power of Siberia gas pipeline running through the Irkutsk Region, the Republic of Sakha (Yakutia), and the Amur Region





## Power of Siberia is a Largest Gas Transmission System in Russia’s East

Predictive supply of "Power of Siberia"

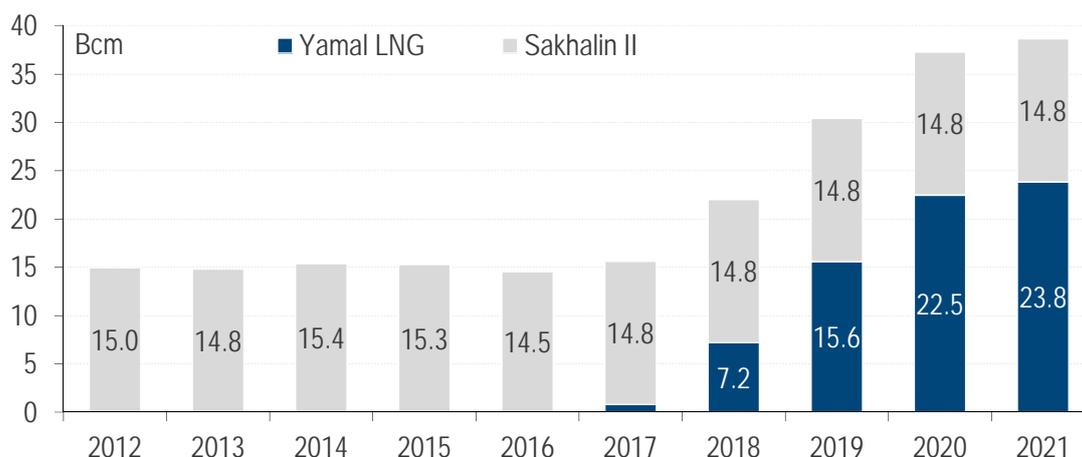


- Export capacity: 38 billion cubic meters per year.
- Russian gas supplies to China via Power of Siberia to start in December 2019.
- However, until 2023, export volume by “Power of Siberia” will be relatively small – no more than 5 bcm p.a. Contract volumes will be achieved by 2025–2026.



## Russian LNG Capacity Grows

LNG supplies from Russia

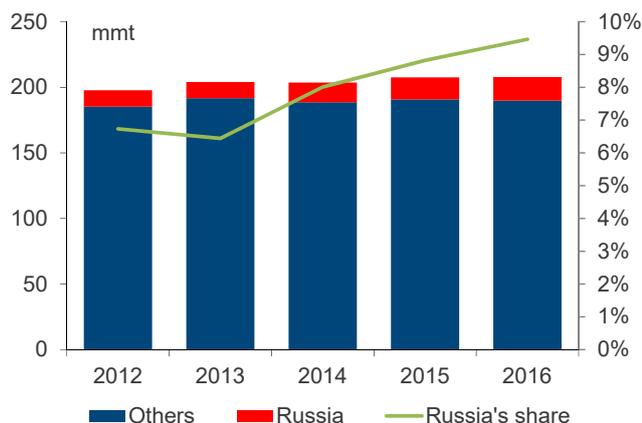


- In October 2017, supplies from Yamal LNG should begin. We assume deliveries of up to 1 mmt in 2017, 7.2 mmt in 2018 and 15.6 mmt in 2019. Yamal LNG “announced the possibility of building a fourth stage of” Yamal LNG “(1 million tons) and plans to implement the project” Arctic-2 LNG”.
- In 2014, Gazprom put into commercial operation the Kirinskoye field of the Sakhalin III project
- Gazprom plans to launch a third liquefied natural gas (LNG) production train at the Sakhalin-2 LNG plant in 2021

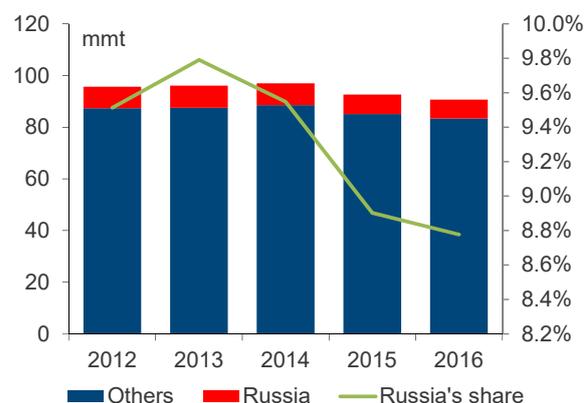


## Russia-Japan LNG and Coal Trade

**Coal Export from Russia to Japan**



**LNG Export from Russia to Japan**



Source: UN Comtrade

- Over the past 5 years, Russia's coal export to the Japanese market has risen from 12.5 mmt to 18 mmt annually, Russia's share from 6.7% to 9.4%.
- Russia accounts 8–9% in the Japanese LNG market.; Russian LNG export to Japan equals 7.3 mmt annually in 2016

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## Russia-Japan Investment Cooperation In the Energy Sector

Project	Russian Companies	Japanese Companies	Production or Reserves
Sakhalin-1 PSA	Rosneft (20%)	Sodeco (30%)	2016 Production 9.0 MMt of oil 8.8 Bcm of gas
Sakhalin-2 PSA	Gazprom (50% + 1 share)	Mitsui (12.5%), Mitsubishi (10%)	2016 Production 5.5 MMt of oil 17.5 Bcm of gas
Ichyodinskoye field, other East Siberian acreage (Irkutsk Oblast)	Irkutsk Oil Company (51%)	JOGMEC, ITOCHU, INPEX (49% combined share)	2016 Production 1.0 MMt of oil 0.2 Bcm of gas
Far Eastern Sakhalin Island	Rosneft signed a heads of agreement with Jogmec, Inpex and Marubeni - on hydrocarbons exploration, development and production at a license block offshore Russia's Far Eastern Sakhalin Island		
Investment cooperation	Russian Direct Investment Fund and Japan Bank for International Cooperation (JBIC) agreed to set up a \$1 billion mutual Russia-Japan Investment Fund, each investing half the amount, with first deals expected in the 2017		

Source: IEF based on METI-Japan, MOF-Japan, OPEC, BP

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## Russia and Japan Deepen Ties

- In December 2016 Russian and Japanese companies signed a number of memoranda and agreements on cooperation in hydrocarbons development.
- Three Japanese companies joining Rosneft in hydrocarbons exploration offshore Sakhalin, expanding LNG partnership with Gazprom and Novatek, opening a credit line for Yamal LNG plant and setting up a mutual fund, among other agreements.
- With a total of more than 80 projects outlined and signed off, the collaboration entered a level "unprecedented in the history of Russia-Japan relations"
- Russia and Japan can have a "win-win" economic and energy partnership.