



THE OXFORD
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STUDIES

A RECOGNIZED INDEPENDENT CENTRE OF THE UNIVERSITY OF OXFORD



Sanctions and the Future of Russian Oil and Gas

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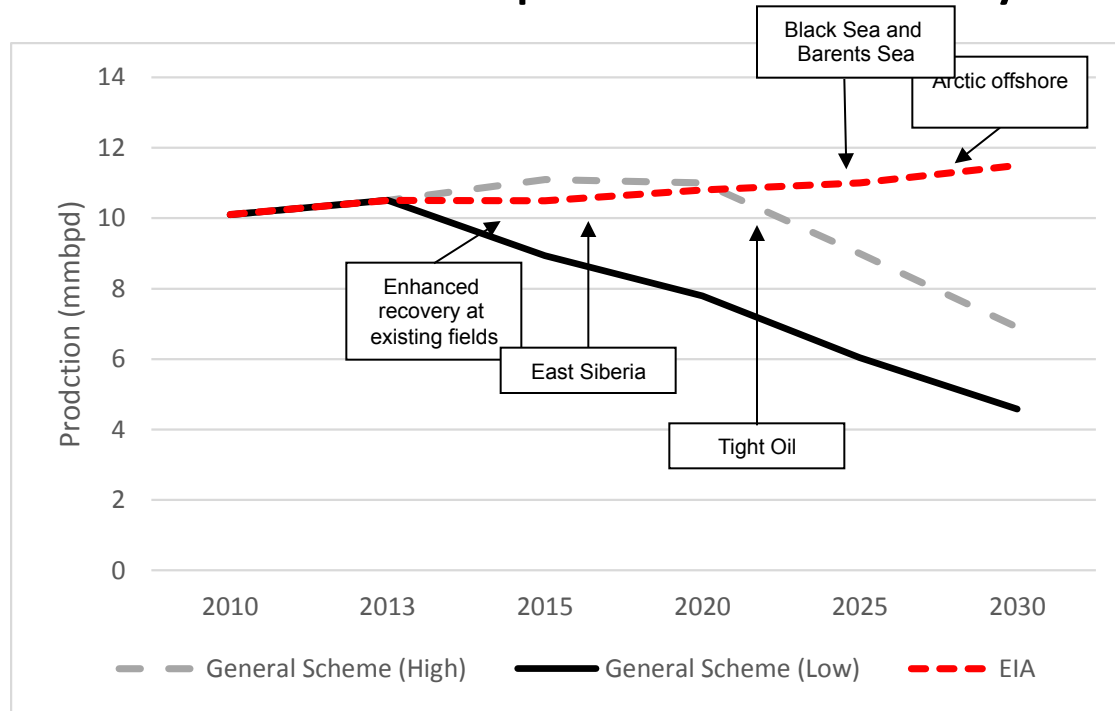
Sanctions on Russian oil and gas companies

	US Treasury EO 13662 Directive 2 (Financing)	US Treasury EO 13662 Directive 4 (Technology)	US Commerce Dept. Export Controls	EU Finance Restrictions	EU Technology Restrictions
Transneft	Yes			Yes	Yes
Gazprom		Yes	Yes		
GazpromNeft	Yes	Yes	Yes	Yes	Yes
LUKOIL		Yes	Yes		
Novatek	Yes				
Rosneft	Yes	Yes	Yes	Yes	Yes
Surgutneftegaz		Yes	Yes		

- US and EU sanctions ban transfer of technology for use in Arctic, deep water offshore (>500 feet) and for shale oil development
- Financial restrictions on access to capital markets – 90 day debt maturity in US, 30 days in EU
- Rosneft and GazpromNeft the main overlap. No financial restrictions on Gazprom, Novatek hit hard by inclusion on US list
- Russian banks also targeted with 30 day debt maturity rule in both areas
- Importantly Australia, Canada, Japan and Norway have also introduced sanctions



Future of Russian oil production – key drivers



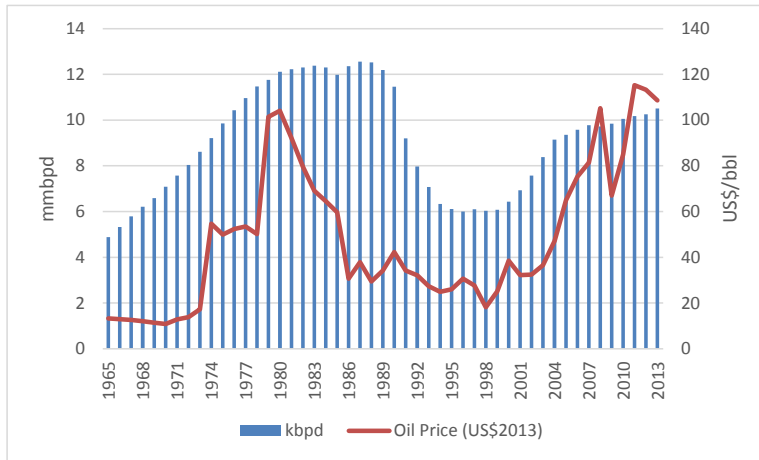
Source: Ministry of Energy, General Scheme of Development of Oil industry to 2020, EIA International Energy Outlook 2013

- Maintaining oil production above 10mmbpd is becoming a key challenge
- Slow growth from current levels (10.6mmbpd) had been expected
- This now seems unlikely as new fields are postponed
- Long-term challenge to enhance existing fields and develop new regions using advanced technology and international experience

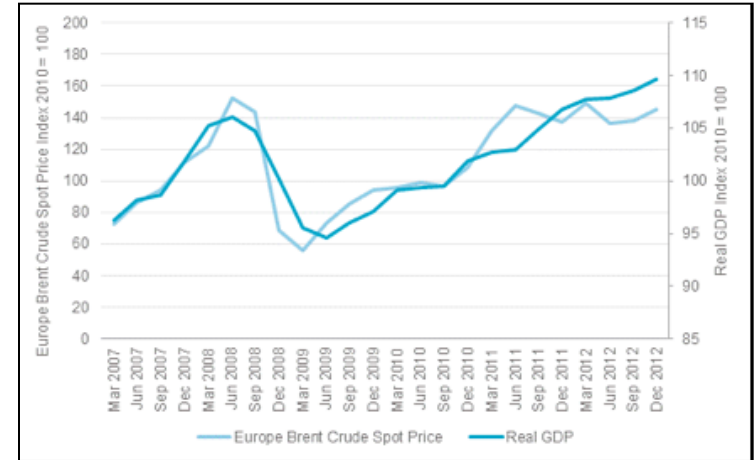


Russian GDP, oil production and the oil price

Oil price and Russian oil output



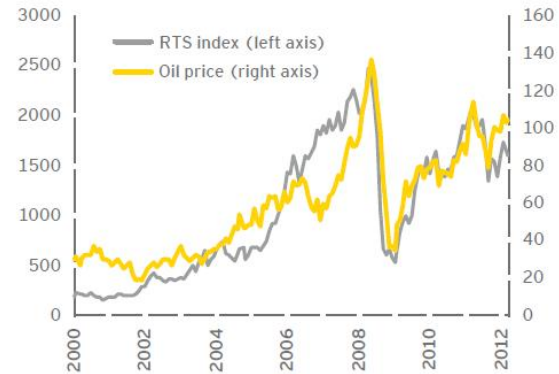
Oil price and Russian Real GDP



**Tight correlation
between oil price,
economic growth and oil
production**

Figure 6

Russian stocks and energy prices: moving in lockstep



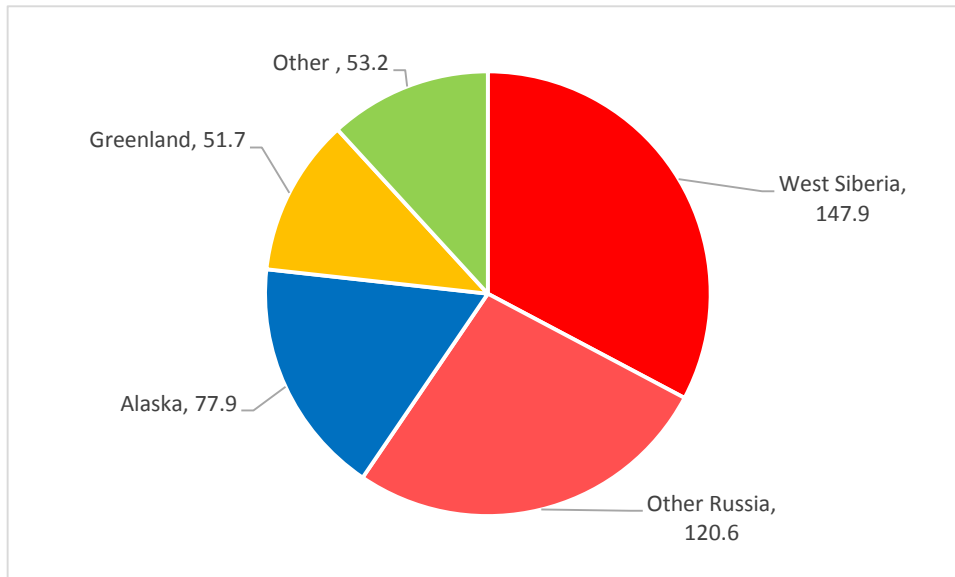
Source: Bloomberg, 2012



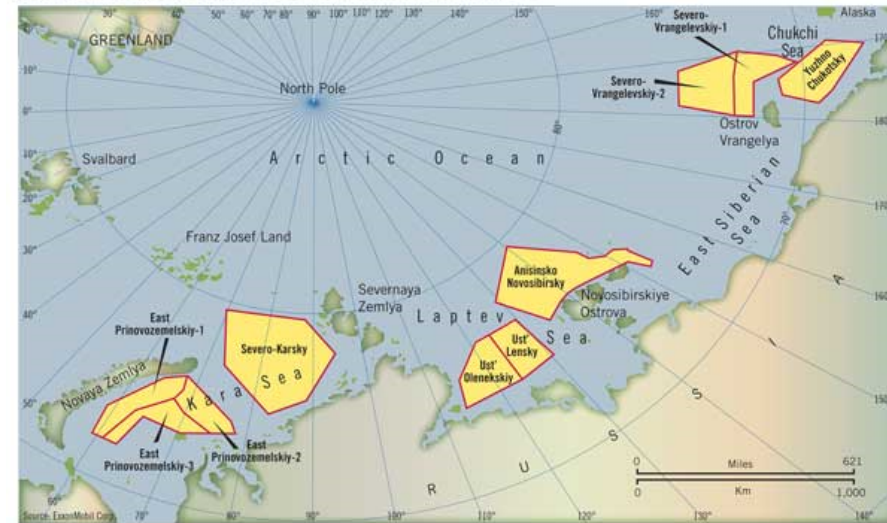
Development of Russian Arctic now in serious doubt

Russia has largest share of Arctic resources

Partnership with Exxon has been key focus



ROSNEFT-EXXONMOBIL STRATEGIC COOPERATION AGREEMENT AREAS



- Arctic development a prestige political project for Russia as well as a long-term production solution
- Opportunity to develop world-leading technology in partnership with IOCs and establish important presence in emerging new region
- Rosneft will not be able to move forward with plans without IOC support, both financial and technical



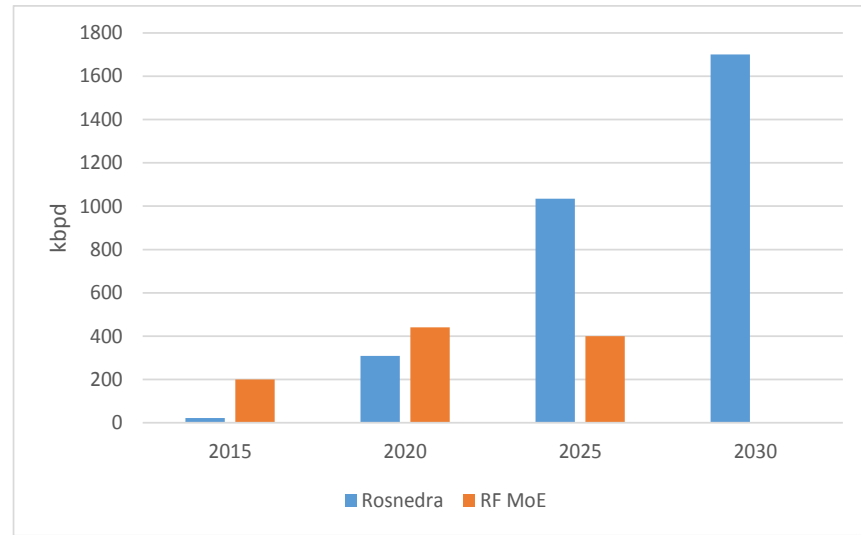
Tight oil in Russia will be delayed despite continued enthusiasm

Bazhenov shale extensive in West Siberia



Self-Sourced Bazhenov Fractured Reservoirs Assessment Unit 11740102
West Siberian Basin Geologic Province 1174

Production potential up to 1.5mmbpd



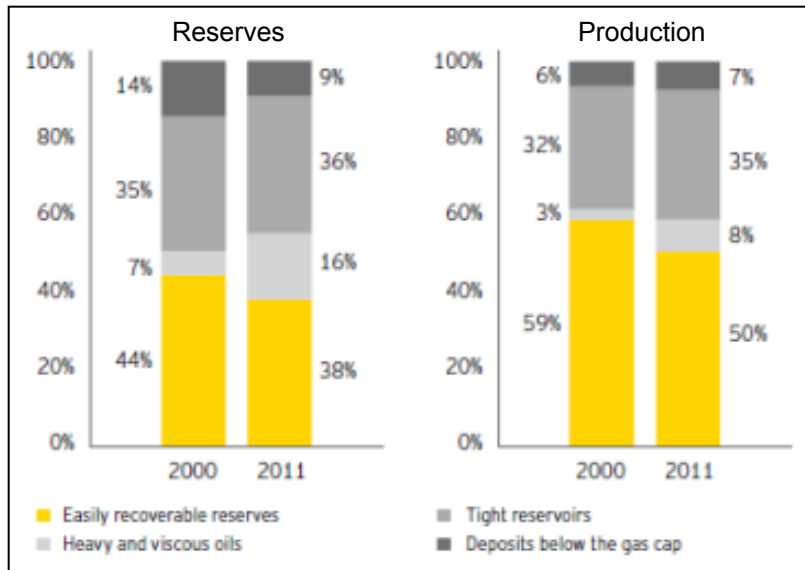
Source: Rosnedra, RF MoE

- Russia has the largest shale oil resources in the world
- Bazhenov shale has been known about for years, but foreign partnership needed to exploit it successfully
- Shell, Exxon, Statoil, Total and BP have all formed JVs, now on hold
- Russian service companies cannot offer adequate equipment



Brownfield recovery through EOR is still possible, but western service companies are needed

Russia's oil is getting more difficult



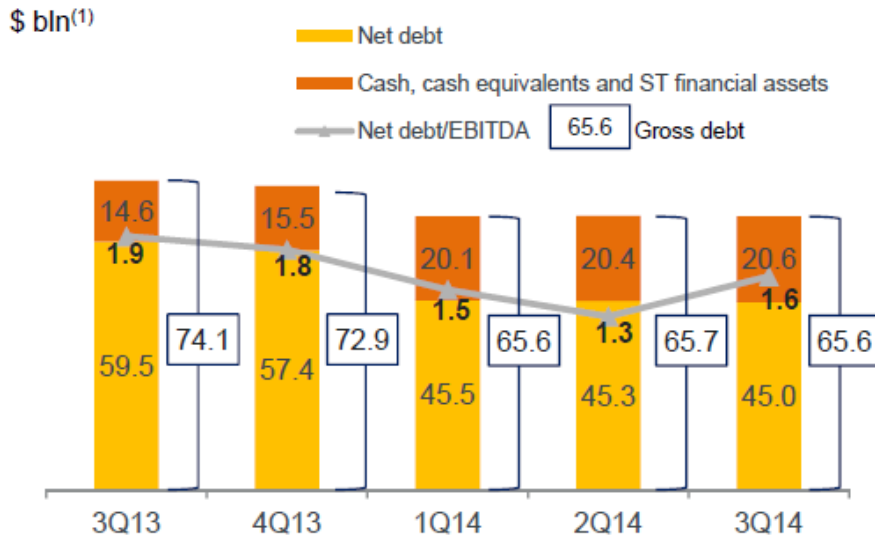
Source: E&Y

- Difficult to recover reserves account for 62% of Russian total
- IEA estimates that EOR could account for 500kbpd of output by 2030
- Tertiary methods gradually being introduced as tax incentives increase
- International techniques brought by IOCs and service companies
 - 95% of horizontal wells drilled by international service companies
- Confusion over exact impact of sanctions here
 - Clarity still being sought concerning equipment with dual uses

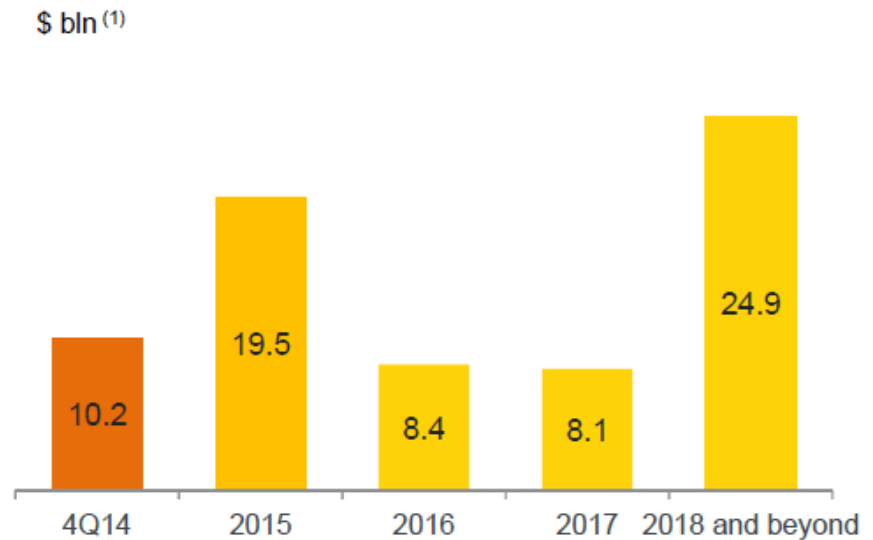


Rosneft faces testing financial issues

Rosneft Debt Profile...



...and Repayment Schedule

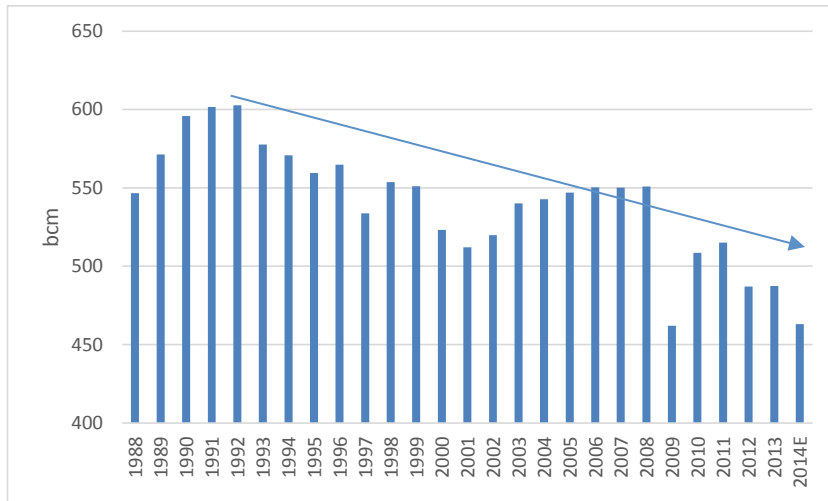


- Rosneft has \$66 billion of outstanding debt, of which half needs to be repaid inside two years
- Ministry of Economic Development believes that access to capital markets could occur in 2016/17 at the earliest
- Rosneft has applied to National Wealth Fund for more than 2 trillion RUR (c. \$44bn)
- Company is already being forced to re-prioritise projects and seek new partners

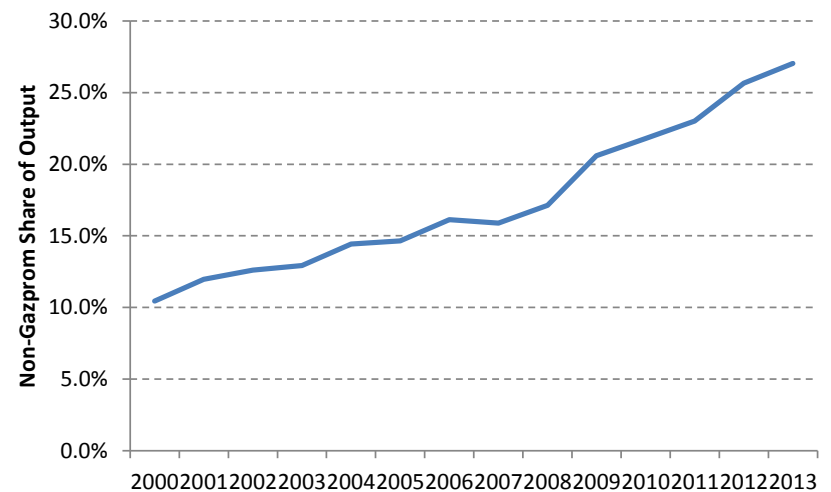


Previous gas market developments – rise of Novatek and Rosneft

Gazprom output in long term decline...



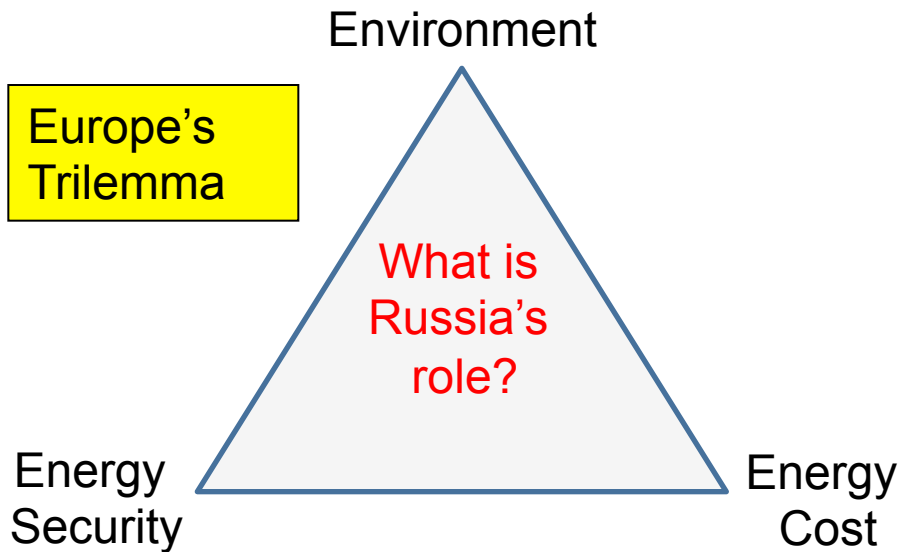
...due in part to increasing domestic competition



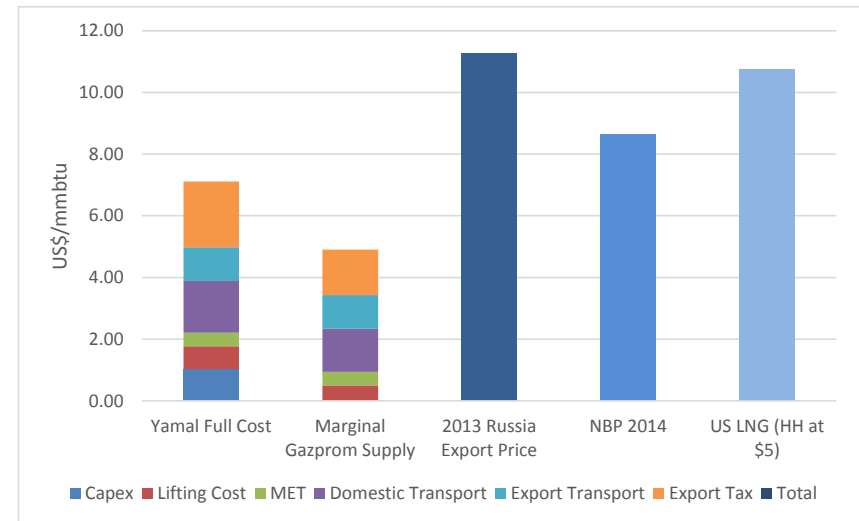
- Gazprom has struggled over the past decade, with output hitting a post-Soviet low in 2014
- Increasing competition in all the company's core markets has combined with the economic crisis, US shale gas, low coal prices and increased support for renewables to undermine sales
- Independent producers in Russia have also been producing more, leaving Gazprom with a significant supply bubble
- Outlook in Europe and FSU markets related to politics as well as economics



Gazprom faces an uncertain future in Europe – but continued significant gas sales seem inevitable



Russia offers the cheapest gas supply



- Ukraine situation creates a clear security of supply risk for Europe this winter
- In the long-term, does the risk concern Russian supply or Ukraine transit?
- The EU appears split over the desirable place for Russian gas as a source of imports – the South Stream debate has highlighted the dilemma
- Russia's competitive commercial position is very strong – it has excess gas at a low cost of supply



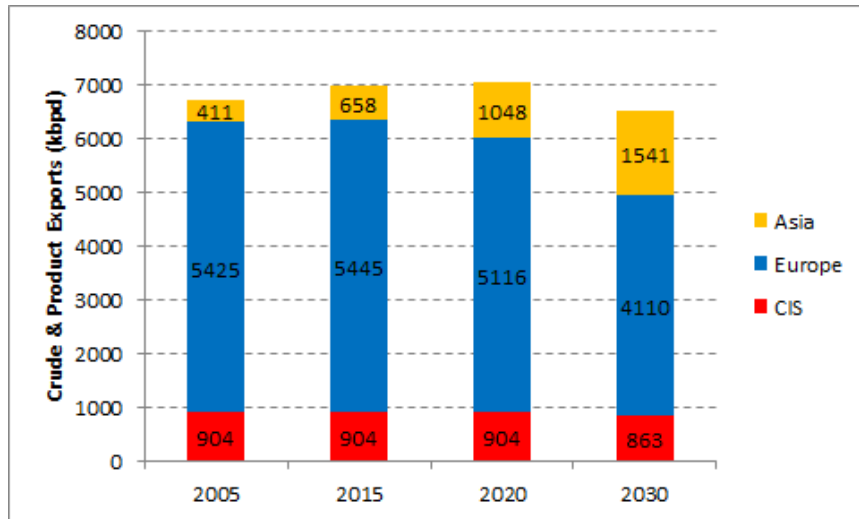
Russia has called Europe's bluff and re-focused on Turkey



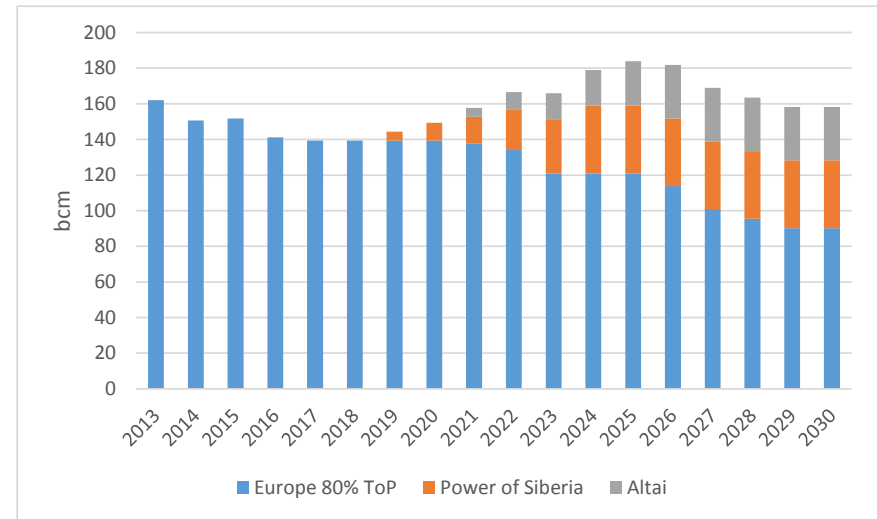
- South Stream project cancelled as EU not supportive
- Alternative pipeline to Turkey proposed
- Ukraine transit risk left with EU; Russia targets Europe's only growing gas market, but is this the optimal route?

Russia wants to balance exports between Europe and Asia

Crude oil export strategy



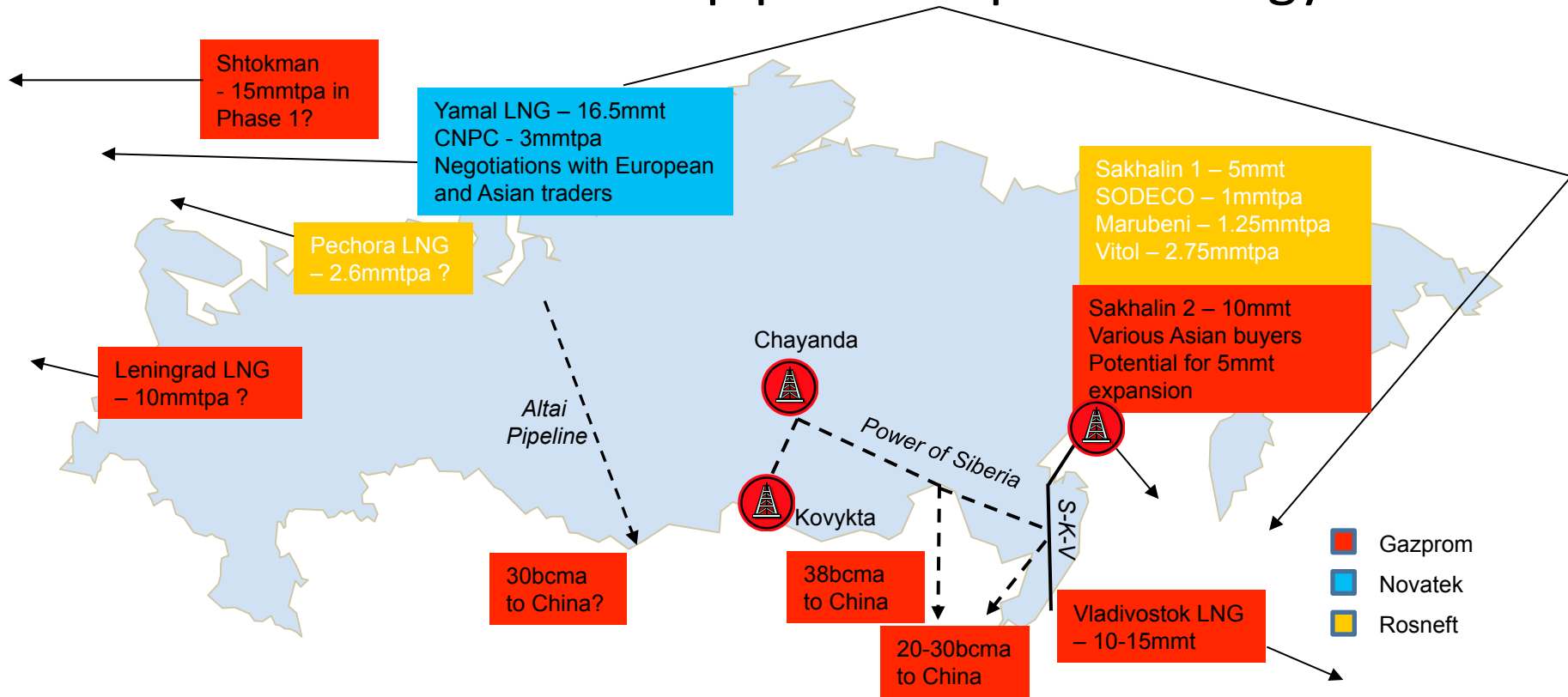
Possible outlook for gas exports



- Expansion into Asia has always been a sensible strategy for Russia, with action catalysed by the current political situation
- China offers a huge growth market, but also a dependency risk
- China has been ambiguous in its support of Russia in 2014, and its gas consumption plans remain unclear
- Despite the bold talk, the Russian shift East offers little real threat to Europe, as all parties need a balanced supply and demand picture



The switch to Asia triggered a move to LNG, but this has now reverted to a pipeline export strategy

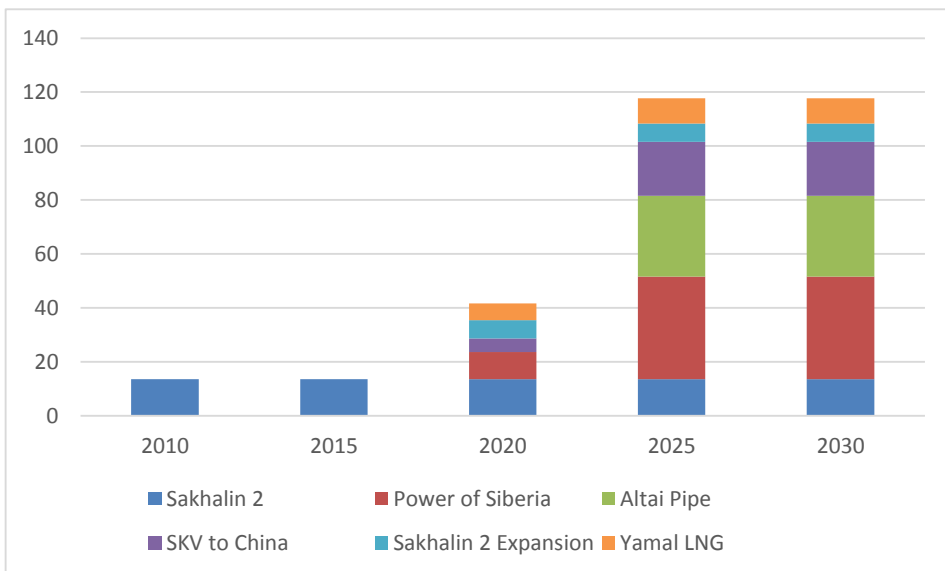


- LNG expansion posed a threat to Gazprom via Novatek and Rosneft
- Projects now delayed or postponed due to lack of finance, customer commitment and certainty over technology
- Pipeline strategy suits Gazprom and Russian budget
- Possibility of new lines to Korea and Japan could extend political reach

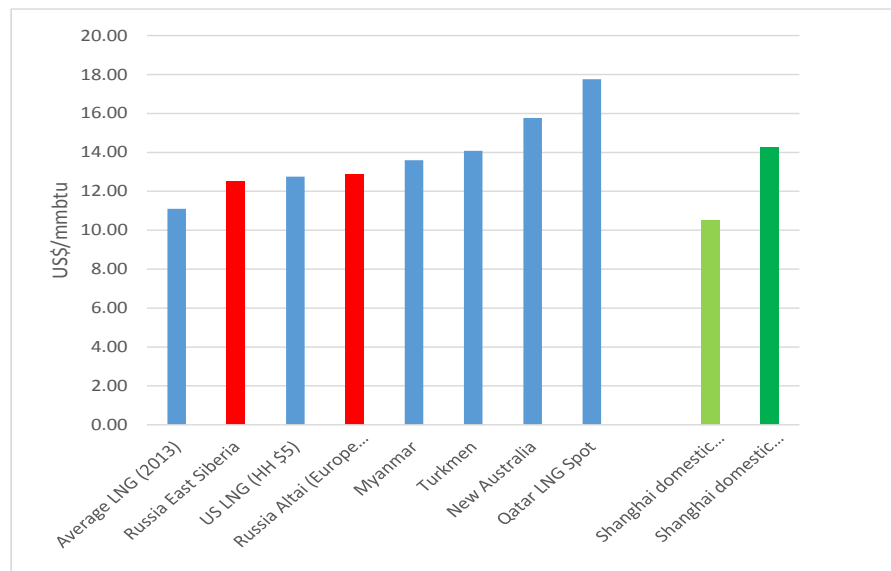


Russian gas is competitive in Asia, and volumes could grow rapidly by 2030

Possible scenario for Russian gas in Asia



Cost of supply of alternative gas to Shanghai



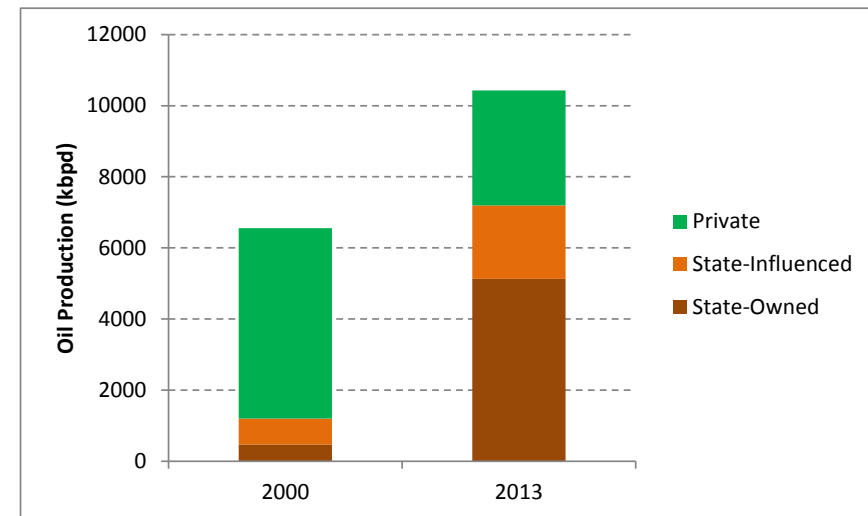
- Yamal LNG is likely to proceed, but behind schedule, with expansion of Sakhalin 2 another possibility
- Three pipelines to China are feasible over time, with two already under discussion / agreement
- Russian gas can be competitive in China / NE Asia, albeit at very modest returns for Gazprom



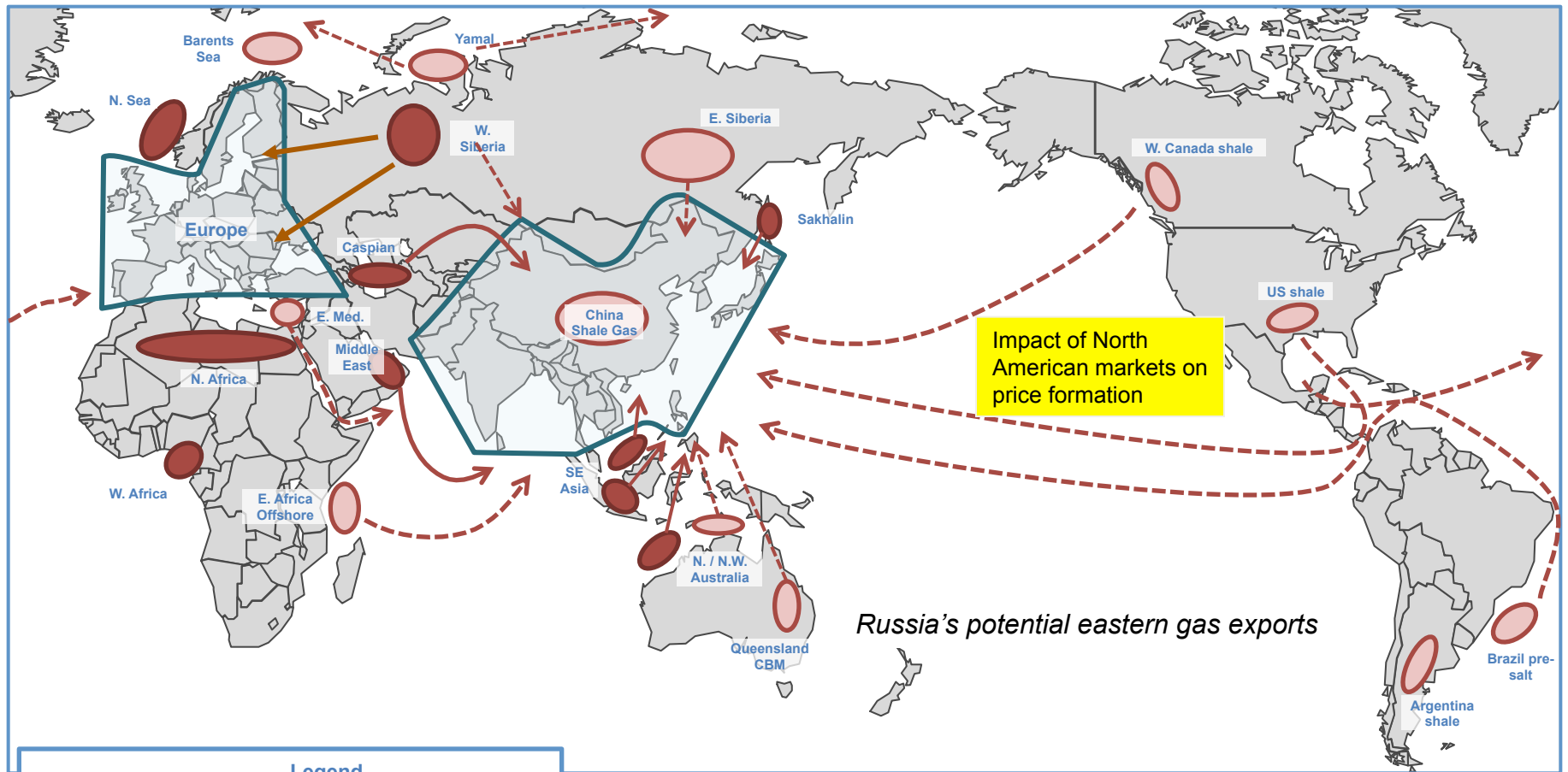
Consolidation of state control in the oil and gas sector is an ever increasing theme

- Rosneft and Igor Sechin remain very influential, especially in the oil sector
- Bashneft example demonstrates that loyalty to the current administration is paramount
- Competition between domestic companies is being discouraged; reform is not on the agenda
- Rosneft and Gazprom remain at war, but have been constrained by sanctions and Russian “fortress” mentality
- Budget revenues under threat from lower oil price, meaning that pipeline gas exports need to become more important over time

State control of Russian oil production



Russia sits at the heart of the global energy economy – there is growing competition but it has plentiful relatively low cost resources



Legend

- → Established gas export province / flows
- - -> Emerging gas export province / flows
- N. Sea Gas export / import province name
- Gas import province

- Will politics undermine commercial advantages?
- Will lack of finance cause a lack of investment?
- Can Russia move forward without IOC support?