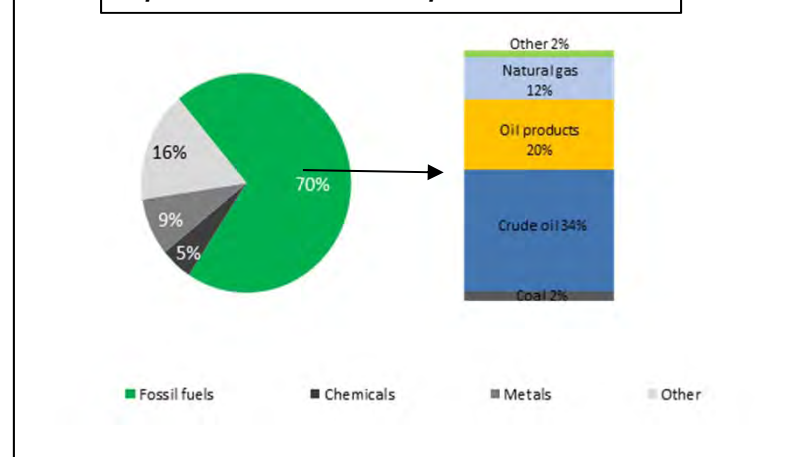


The Outlook for Russian Gas

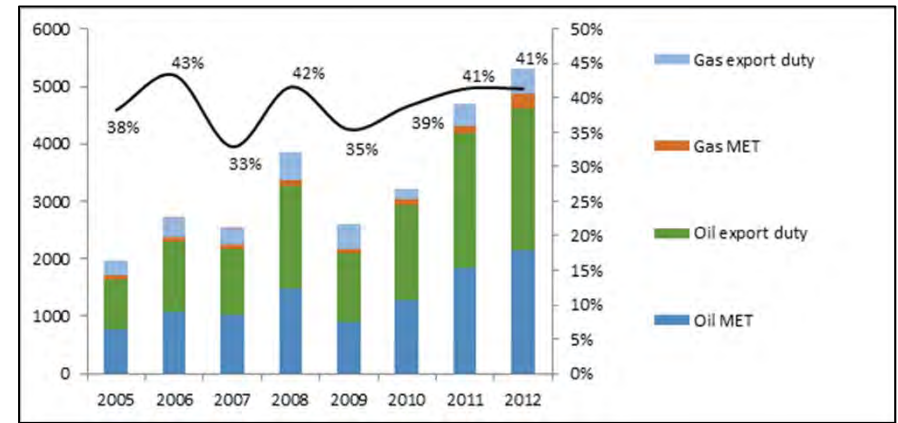
James Henderson

The Political Economy of Russian Energy – Role of oil as revenue provider

Split of Russian export revenues



Oil and gas export tax and MET in budget revenues



- Russian economic growth and industrial output have disappointed since the recession; projections of 1-2% GDP growth over the next few years
- Oil and gas continues to dominate the Russian economy despite attempts at modernisation and diversification
- The oil sector is the main revenue provider – Russia remains very exposed to global oil prices; a fall even to \$80/bbl would be serious
- Gas is the foundation of the Russian energy economy and has to balance political and commercial objectives

The “Russian Gas Matrix” as a basis for analysis

	2002	2008	2012
SUPPLY SOURCES:			
Gazprom production	522	550	488
Non-Gazprom production	73	114	169
Central Asian imports	7	61	33
TOTAL	602	725	690
MARKETS:			
Russian gas demand (UGSS)	365	406	425
Exports to CIS countries	89	89	63
Exports to Europe (physical Russian gas)	129	159	139
LNG Exports to Asia	0	0	14
TOTAL	583	654	641

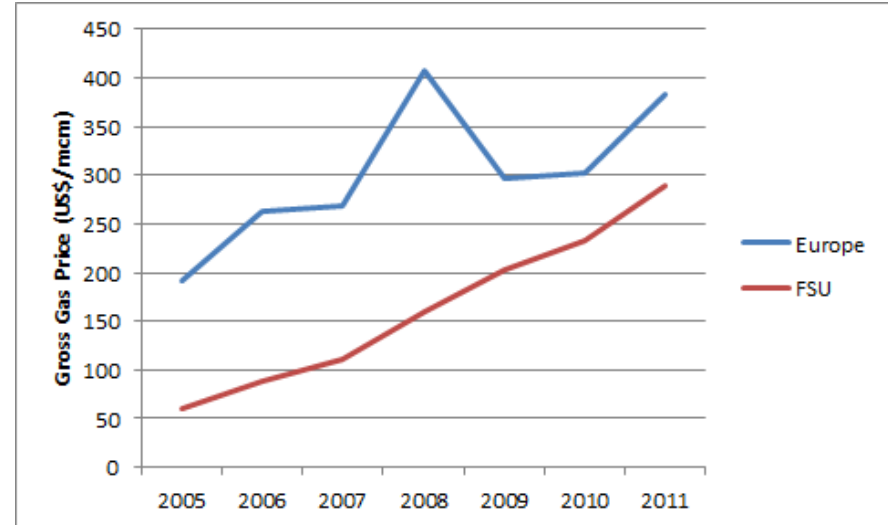
- **The changing face of supply in the Russian Gas Matrix**
 - Decline in Gazprom production post 2008 reflects lack of markets
 - Rise and fall of Central Asian imports
 - Increasing importance of independent supply
- **Shifts in market patterns are now shaping Russian gas sector**
 - Slowing growth of domestic demand
 - Decline in CIS demand
 - Uncertain outlook for exports to Europe
 - The emergence of Asia as a new source of demand

Gazprom export markets – rising prices but falling volumes

Russia's gas export volumes

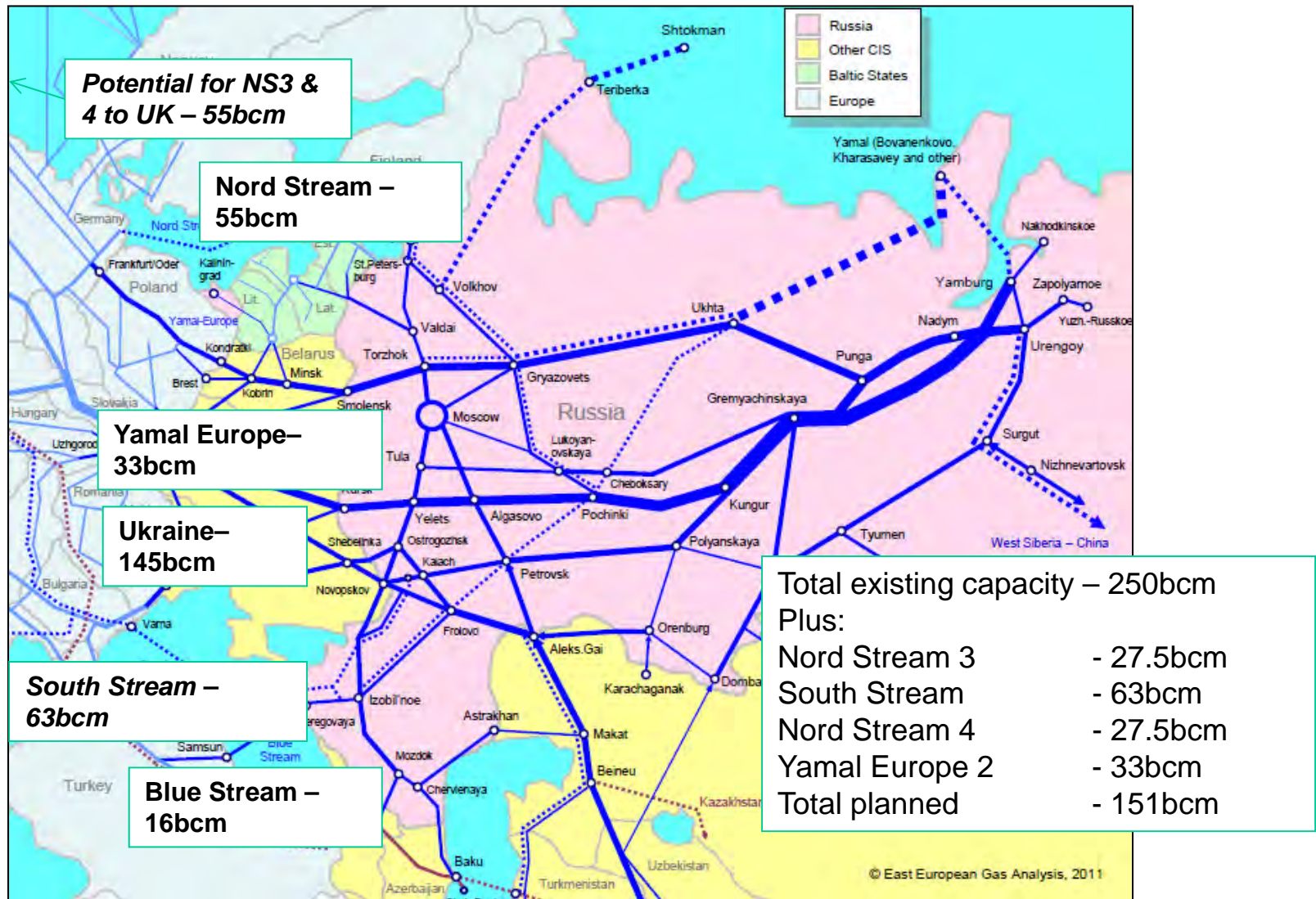


Prices for Russian gas exports



- **Russia's export volumes declined sharply during the 2008/09 economic crisis and did not recover up to 2012**
- **Prices for Russian gas, that remained linked to oil prices, compensated for this loss of volumes, but reduced Gazprom's competitiveness**
- **Gazprom's position is also being challenged by a number of arbitration cases and by the EU Competition Directorate**

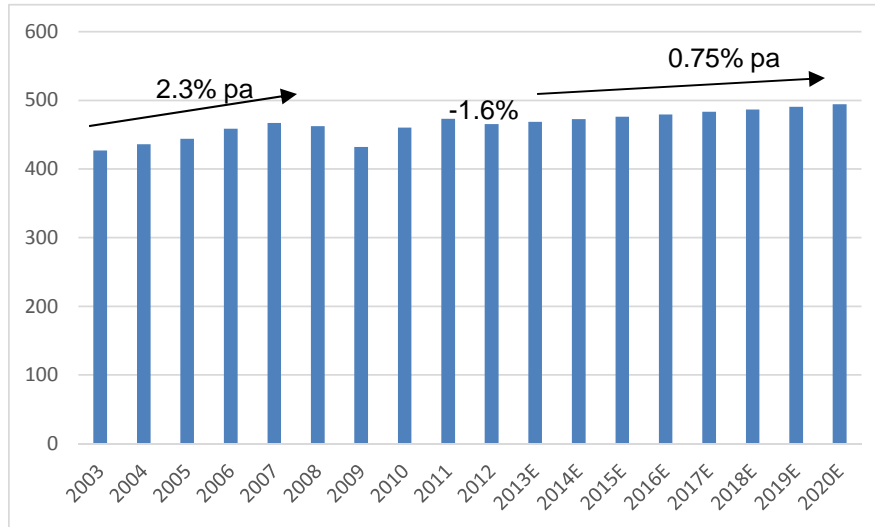
Why so many export pipes? You need to be very confident about the outlook for European gas demand to need this much capacity.



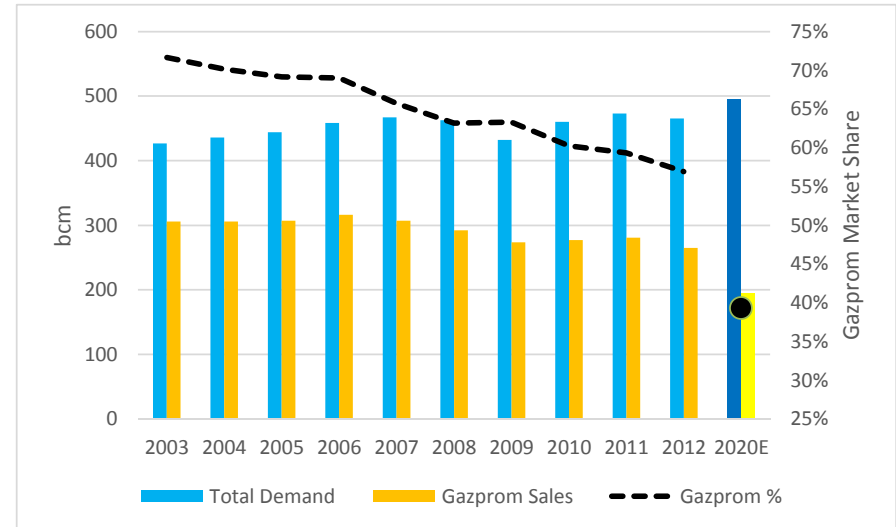
There are major problems connected with new EU network codes

Russia's domestic market is demonstrating similar trends with demand growth stalling as prices rise

Demand growth in Russia is stalling



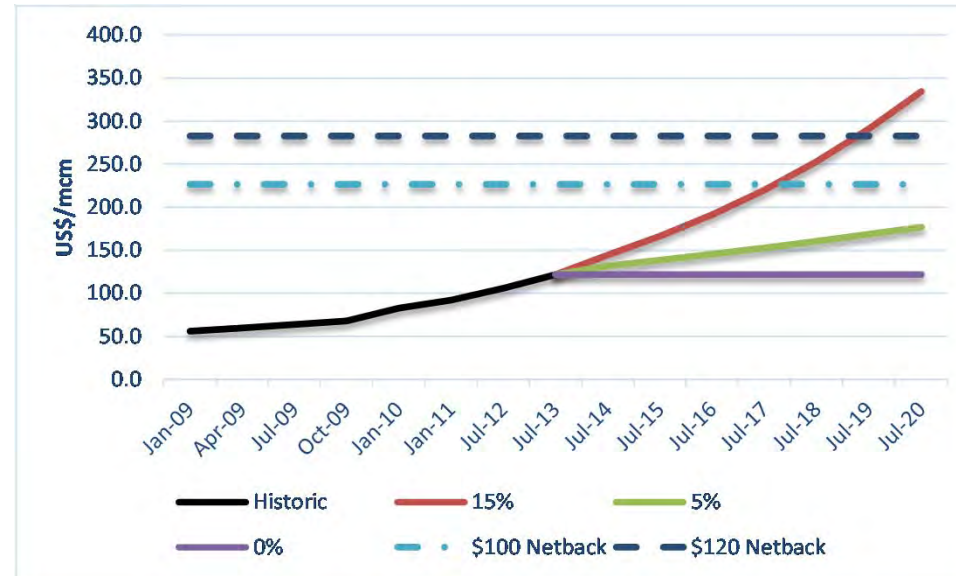
Gazprom's market share is falling



- **Russian gas demand fell by 1.6% in 2012 and is set to rise by only 0.75% p.a. to 2020, in reaction to a quadrupling of prices in 10 years**
- **Gazprom's market share has been falling consistently over the past decade and could be below 50% by 2020**
- **Novatek and Rosneft both aim to produce and sell 100bcma + by 2020 when total Independent production could reach 300bcma**
- **The balance of the market is adjusting to a new more competitive landscape**

Domestic gas prices have reached a quasi-equilibrium, within a regulated context

Outlook for domestic gas prices in Russia

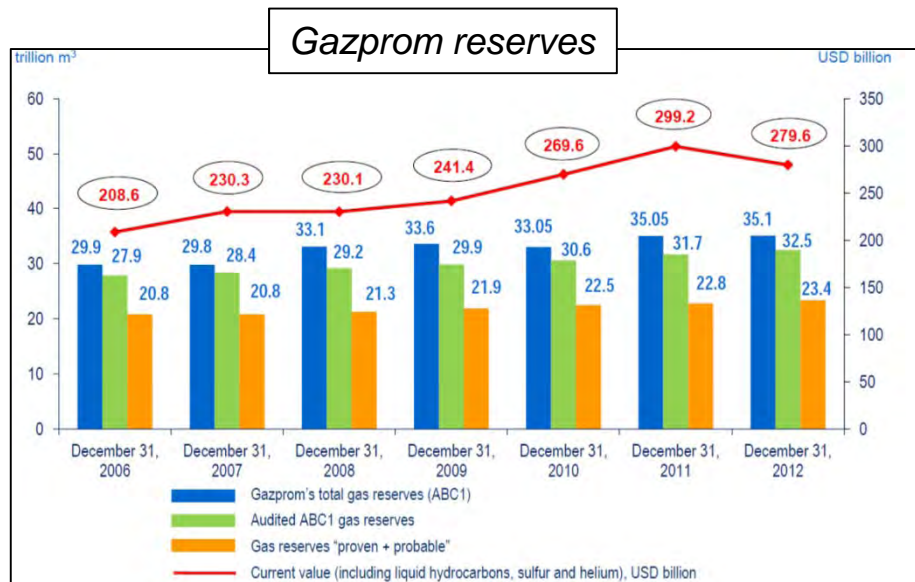


- Initial reaction was to slow growth from 12-15% to 5% per annum, but this may become 0% in 2014
- Oversupply of gas in Russia has raised questions about why regulated gas prices need to rise, particularly towards netback parity; Gazprom is now looking to see below regulated prices
- The Gas Exchange could help to establish a true market price, but in the meantime a quasi-market already seems to be operating

GAZPROM IN 2013: all markets under attack

- **Domestic: attack led by Novatek and Rosneft**
- **CIS: declining sales due to aggressive pricing strategy in Ukraine**
- **Europe: loss of sales (due to aggressive pricing strategy somewhat compensated by high prices) may now be reversing somewhat**
- **Asia and LNG exports: opportunity for growth, but will Gazprom be the Russian company that exploits it?**

Gazprom has plenty of resources but is struggling to find a market for them



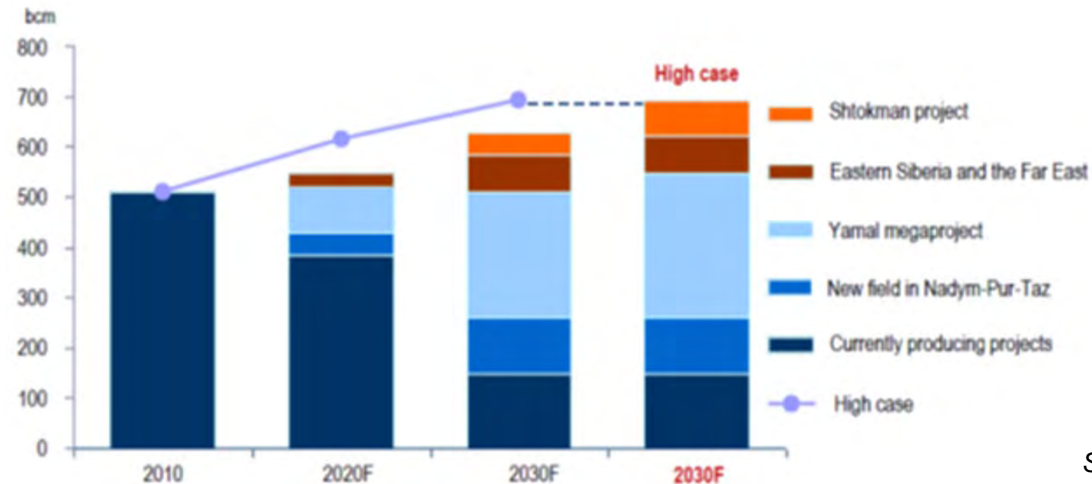
Gazprom production forecasts and results

		2010	2011	2012	2013	2014	2015	2020
Gazprom Production (actual)		508.6	513.2	487.0				
Gazprom Projections (date of projection)	2009	507	510	523			615	620
	2010		529	542	566			620
	2011		519	521	549	570		650
	2012			529	541	548		650
	2013				496	518	518	540

Source: Gazprom AGM, June 2013

- **Gazprom's reserve base remains enormous, with its ABC1 reserves consistently increasing**
- **Production has been in general decline since 2008, and the company's proved reserve life is now almost 40 years**
- **Gazprom's difficulties are encapsulated in its consistent missing of production targets and the 2013 downgrade of its 2020 production estimate by 100 Bcm**

Gazprom production 2000-20

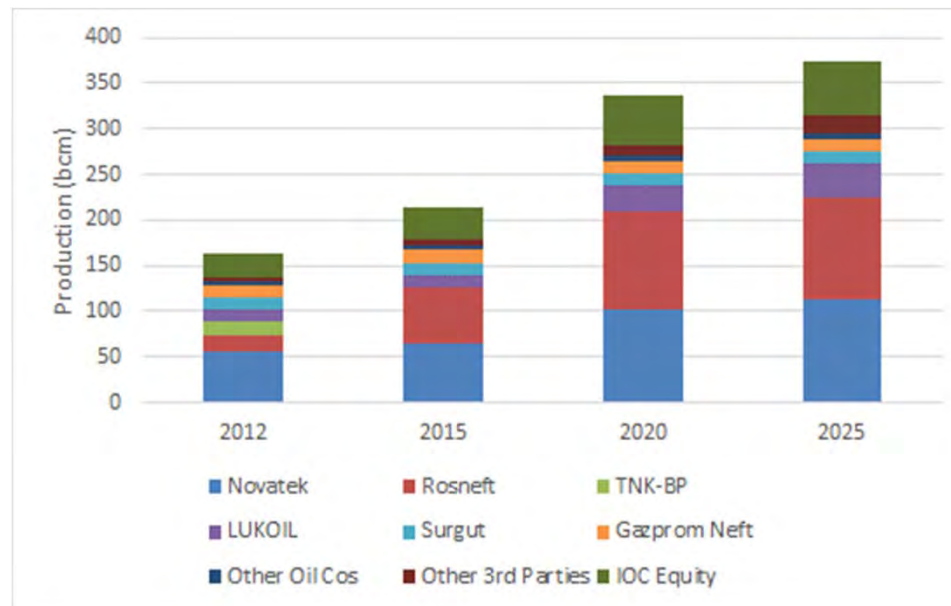


Source: Gazprom Feb 2013

- **Gazprom has seen its production profile shift away from its core West Siberian mega-fields**
- **The 2000s: a strategy of satellite development to avoid major expenditure on its huge remote fields**
- **A “crisis point” was reached in 2006/07 when output shortages were feared by the Russian government and by European customers – this turned out to be completely wrong**
- **At that point Gazprom committed to the Yamal peninsula development and is now effectively stuck with that strategy**

Conclusions on Independent Gas Supply

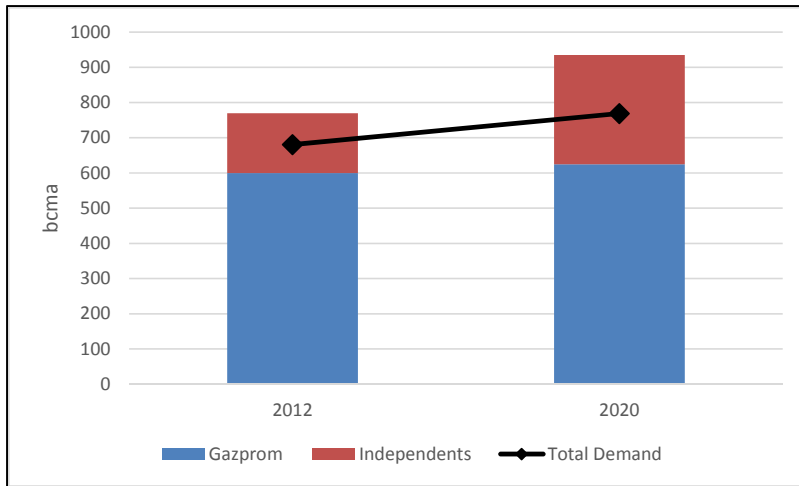
Potential Independent Gas Production in Russia



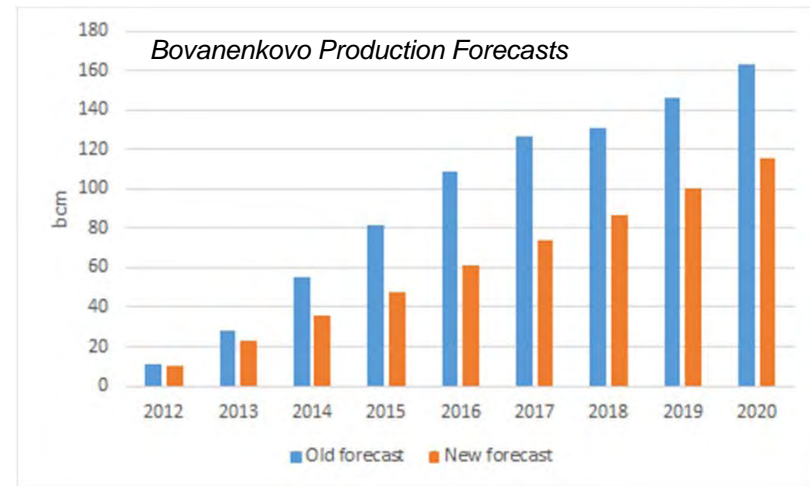
- **Independents could theoretically produce over 300bcm by 2020**
- **Their gas is generally cheaper than Gazprom's new developments in Yamal, giving a competitive advantage**
- **Independents could control more than 50% of domestic market by 2020**
- **Exports of LNG will provide a first entry into global markets which could expand further if political support is maintained**

Conclusions on Russian Gas Supply

Russia has excess gas output capacity



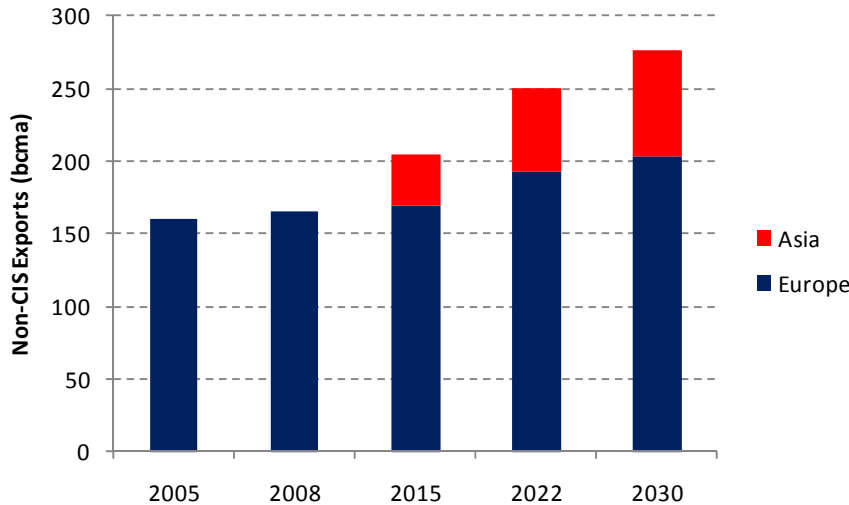
Gazprom is being forced to cut back production



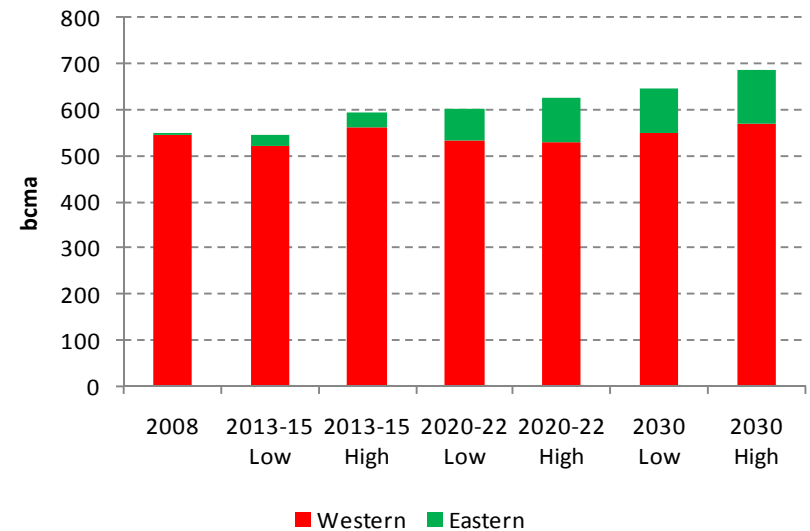
- **Russia is oversupplied with gas following the significant change in market conditions since 2008**
- **This situation looks set to continue as production capacity of Gazprom and the Independents increases to over 900bcma by 2020**
- **As the high cost producer Gazprom is likely to have to adjust production from the Yamal peninsula to reflect demand from export and domestic markets**
- **Gazprom and Russia's main growth potential is therefore in the East, where Gazprom has significant resources but only a small domestic market**

Russian Energy Strategy sees eastern gas sales as key for output and exports to 2030

Russian gas export forecast



Split of Gazprom production to 2030



- **Russia regards gasification of its eastern provinces as a key strategic priority**
- **Increased export sales will be vital to underpin the economics of supply developments**
- **Gazprom's production growth will rely on growing eastern output, as it faces more competition west of the Urals**
- **It would therefore appear to be in Russia's interest to conclude an agreement with China**
- **Competitive tension is also being created via discussions on piped gas exports to Korea, LNG from Vladivostok and potential Sakhalin expansion**

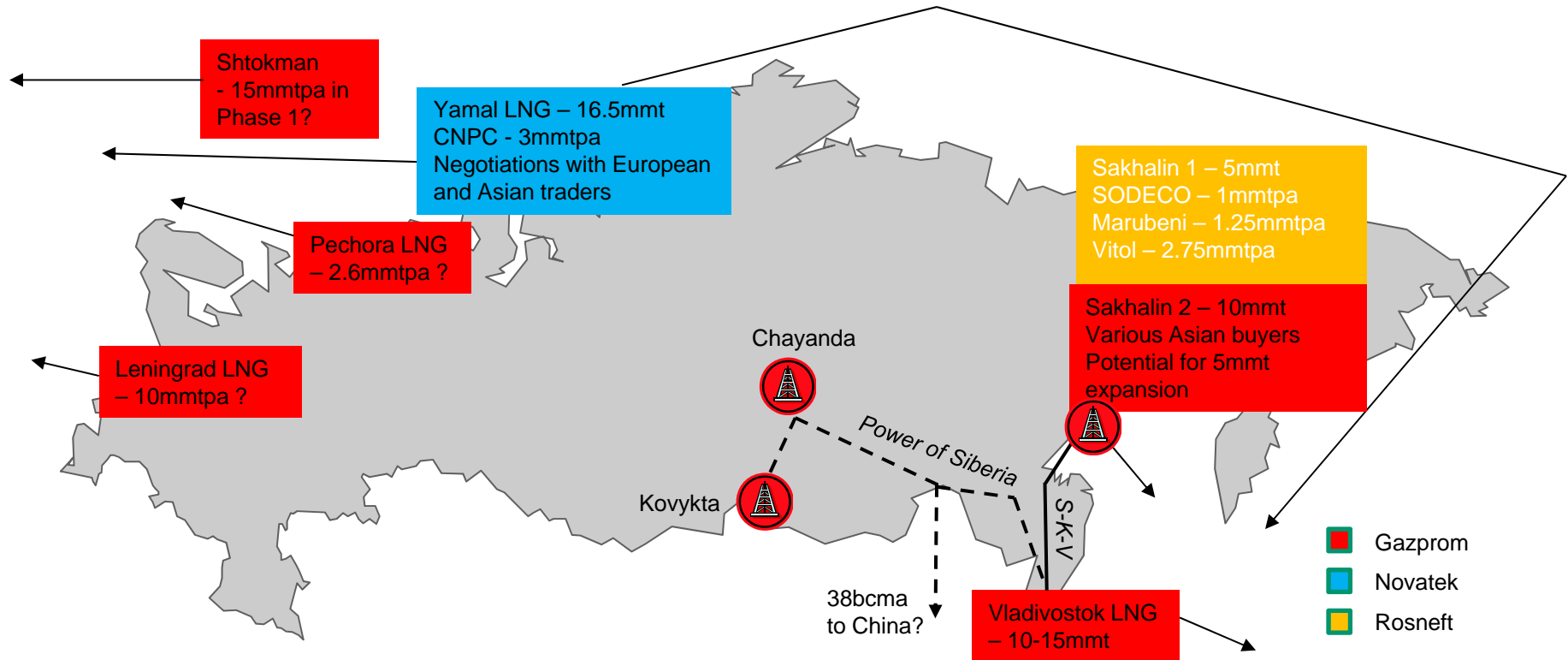
The Eastern Gas Strategy has an export and a domestic focus



- The “Power of Siberia” pipeline from East Siberia to the Pacific Coast will support a range of new initiatives
 - Piped gas sales to China via a spur from Blagoveshensk
 - Gasification of the domestic regions in East Siberia and the Far East of Russia
 - Long term gas supply for a new LNG facility at Vladivostok

- Investment in this \$80 billion strategy will depend upon the successful conclusion of negotiations with China over an export deal

The growing competition between Gazprom and the Independents could extend to the LNG and Asian export markets



- A significant battle is taking place to become the leader of Russia's LNG strategy
- The ending of Gazprom's monopoly on LNG exports signifies government support for 3rd party exporters – Rosneft and Novatek are actively competing with Gazprom for customers
- Managed competition is the Russian government target, but may not be achievable if Rosneft in particular adopts an aggressive strategy

Markets are driving change

- **Gazprom may get lucky, but it appears to be taking a high risk strategy in the West and the East**
- **It needs to demonstrate an ability to operate in a more competitive global gas market**
- **To date its strategy has been very reactive, not proactive – it may be able to change, but could be hampered by politics**
- **In the meantime, competition from Rosneft and Novatek is emerging fast**
- **This is manifesting itself in the domestic market and in the East**
- **Rosneft, and Igor Sechin, have large ambitions – it is unclear how far they will be allowed to go in disturbing the current balance**