The Russian Gas Market in a New Era

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Institute of World Economy and International Relations (IMEMO), Moscow
Agenda

- Introduction: the Russian gas matrix
- The markets:
  - Europe
  - Former Soviet Union (FSU)
  - Asia
  - Russian domestic market
- Gazprom and independent supply
- Conclusions
### SUPPLY SOURCES:

<table>
<thead>
<tr>
<th></th>
<th>2002</th>
<th>2008</th>
<th>2012</th>
<th>2013</th>
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</thead>
<tbody>
<tr>
<td>Gazprom production</td>
<td>522</td>
<td>550</td>
<td>487</td>
<td>487</td>
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<tr>
<td>Non-Gazprom production</td>
<td>73</td>
<td>114</td>
<td>169</td>
<td>181</td>
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<tr>
<td>Central Asian imports</td>
<td>34</td>
<td>68</td>
<td>29</td>
<td>33</td>
</tr>
<tr>
<td>TOTAL</td>
<td>629</td>
<td>732</td>
<td>685</td>
<td>701</td>
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### MARKETS:

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<th>2002</th>
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<tbody>
<tr>
<td>Russian gas demand (UGSS)</td>
<td>412</td>
<td>462</td>
<td>465</td>
<td>461</td>
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<tr>
<td>Exports to CIS countries</td>
<td>89</td>
<td>89</td>
<td>58</td>
<td>55</td>
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<tr>
<td>Exports to Europe (physical Russian gas)</td>
<td>129</td>
<td>159</td>
<td>144</td>
<td>166</td>
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<tr>
<td>LNG Exports to Asia</td>
<td>0</td>
<td>0</td>
<td>14</td>
<td>14</td>
</tr>
<tr>
<td>TOTAL</td>
<td>630</td>
<td>710</td>
<td>681</td>
<td>694</td>
</tr>
</tbody>
</table>

Source: Gazprom

- **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 and therefore exports
  - Uncertain outlook for exports to Europe
  - The emergence of Asia as a new source of demand
The Markets
Exports to Europe
### Gazprom Long Term Contract Exports to Europe (Bcm)

<table>
<thead>
<tr>
<th></th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
<th>2012</th>
<th>2013</th>
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<td><strong>Western Europe</strong></td>
<td>109.8</td>
<td>103.6</td>
<td>115.9</td>
<td>111.4</td>
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<tr>
<td><em><em>Eastern</em> Europe</em>*</td>
<td>38.5</td>
<td>44.5</td>
<td>40.7</td>
<td>39.6</td>
<td>40.8</td>
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<td><strong>Baltic States</strong></td>
<td>4.4</td>
<td>3.9</td>
<td>5.1</td>
<td>4.8</td>
<td>4.2</td>
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<tr>
<td><strong>Total LTC</strong></td>
<td>142.8</td>
<td>138.6</td>
<td>150.3</td>
<td>139.9</td>
<td>166.0</td>
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<tr>
<td><strong>Total Group</strong></td>
<td>152.7</td>
<td>152.0</td>
<td>161.7</td>
<td>155.8</td>
<td>178.6</td>
</tr>
</tbody>
</table>


2013 recovery mainly due to three countries: Italy, Germany, UK. 1H 2014 sales up 4.3%
Gazprom’s Long Term Contract Renegotiations 2010-14

- **2010-12:**
  - minimum take or pay volumes at contract price
  - volumes above minimum take at hub prices, to recognise recession impact

- **2012-14 (differences in individual contracts):**
  - base price reduction of 7-13% (?) and ToP reduction to 70%?
  - rebate mechanism whereby if the contract price exceeds the hub price by 5-15% (?), Gazprom refunds the difference at end of period – 2012-13 rebates have been €1-3bn/year, but 2014 may be much larger because of the collapse in European hub prices

Conclusions: neither side wants to terminate long term contracts; with the fall in hub prices in 2014, negotiations could once again become active
By 4Q/13, Gazprom prices were within 5% of NBP, this is the major reason why Gazprom sales increased in 2013.
Gazprom’s Long Term Contract Price Arbitrations

- 2010: Edison review of long term contract prices settled in July 2011 with price adjustment; August 2013 – Edison arbitration proceedings on price – awarded €80m by tribunal in September 2014

- December 2010: RWE Transgas review of long term contract prices, tribunal award to RWE (€1.6bn?) and share of hub pricing in the contract price in July 2013 (take or pay arbitration decision in favour of RWE in October 2012)

- February 2011: Erdgas Salzburg v GWh, review of long term contract prices (settled)

- July 2011: E.ON Ruhrgas, review of long term contract prices – settled July 2012 with price adjustment; July 2014, new arbitral proceedings filed

- November 2011: PGNiG, review of long term contract prices – settled November 2012 with price adjustment

- October 2012: Lithuanian government, review of long term contract prices
DG COMP Proceedings Against Gazprom

- September 2012, DG COMP announces proceedings against Gazprom Affiliates in 8 EU countries: Poland, Czech Republic, Austria, Bulgaria, Hungary, Latvia, Estonia, Lithuania
- to investigate:
  - hindering free flow of gas across member states (apparently resolved)
  - preventing diversification of gas supply (apparently resolved)
  - imposing unfair prices on customers by linking the price of gas to oil prices (not resolved: economic fundamentals, and comparison with prices charged to “Russia’s neighbours” are apparently sticking points)

Since October 2013, Gazprom has been negotiating with DG COMP on contractual remedies. If successful, problems could be solved without confrontation; “Statement of Objections” will now be delayed until new Commissioner is in place (October/November 2014 ?)
South Stream: regulatory challenges

- Cannot be built outside the TEP as does not have an exemption
- If built under the TEP it would automatically become a subject to its TPA, tariff & ownership unbundling requirements
- Failed to receive a PCI status and hence cannot benefit from its beneficial regulatory procedure
- Concluded IGAs with all host countries but the EC deemed these non-compliant with the TEP, and called for their renegotiation/renouncement - Russia’s agreement to renegotiate might depend on the degree its demands are accommodated in the amendments to the TEP (e.g. CAM NC)

If on schedule, South Stream would become operational in late 2015 (ahead of any EU regulatory framework for new capacity, which might or might not be developed later): this is a problem both for the EU-Russia gas and political relationships
Conclusions on Exports to Europe

- Price problems with major customers well on the way to being resolved prior to the collapse in European hub prices – ongoing arbitrations are with Lithuania (which is a very small) and E.ON
- Oil-linked price problems with DG COMP investigation remain unresolved (and have been further politicised)
- Major difficulties with the EU over Third Package application to Nord Stream (nearly resolved) and South Stream – current impasse – where Gazprom is going ahead with construction

Commercial and regulatory problems have been massively complicated by Ukraine crisis which: has further politicised gas issues and threatens an interruption of supplies to Europe (as in 2009)
Trade with the former Soviet countries
Exports to CIS countries are falling

<table>
<thead>
<tr>
<th>Russian exports to CIS (bcm)</th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
<th>2012</th>
<th>2013</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Ukraine</strong></td>
<td></td>
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<td></td>
<td></td>
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<tr>
<td>Russian imports</td>
<td>37.8</td>
<td>36.5</td>
<td>44.8</td>
<td>32.9</td>
<td>25.8</td>
</tr>
<tr>
<td>Other (own production)</td>
<td>21.3</td>
<td>20.5</td>
<td>20.6</td>
<td>20.5</td>
<td>20.0</td>
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<td>Other (&quot;reverse flow&quot;)</td>
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<td>0</td>
<td>0</td>
<td>0.1</td>
<td>2.1</td>
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<td><strong>Belarus</strong></td>
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<td></td>
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<tr>
<td>Russian imports</td>
<td>17.6</td>
<td>21.6</td>
<td>23.3</td>
<td>19.7</td>
<td>19.8</td>
</tr>
<tr>
<td>Other (own production)</td>
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<td>0.2</td>
<td>0.2</td>
<td>0.2</td>
<td>0.2</td>
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<td><strong>Moldova</strong></td>
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<td></td>
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<tr>
<td>Russian imports</td>
<td>3.0</td>
<td>3.2</td>
<td>3.1</td>
<td>3.1</td>
<td>2.4</td>
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<td><strong>Georgia</strong></td>
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<tr>
<td>Russian imports</td>
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<td>0.2</td>
<td>0.2</td>
<td>0.2</td>
<td>0.2</td>
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<td>Other (Azeri import)</td>
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<td>1.5</td>
<td>1.5</td>
<td>1.5</td>
<td>1.5</td>
</tr>
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<td><strong>Armenia</strong></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Russian imports</td>
<td>1.7</td>
<td>1.4</td>
<td>1.6</td>
<td>1.7</td>
<td>1.1</td>
</tr>
<tr>
<td><strong>Azerbaijan</strong></td>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other (own production)</td>
<td>8.5</td>
<td>7.8</td>
<td>10.1</td>
<td>10.6</td>
<td>10.0</td>
</tr>
<tr>
<td><strong>Total</strong></td>
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<td></td>
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<tr>
<td>Russian imports</td>
<td>60.2</td>
<td>62.9</td>
<td>73.0</td>
<td>58.8</td>
<td>49.3</td>
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<tr>
<td>Other</td>
<td>31.0</td>
<td>29.9</td>
<td>32.4</td>
<td>32.9</td>
<td>33.8</td>
</tr>
</tbody>
</table>

Exports to CIS countries have fallen from ~90 bcm/yr in the mid 2000s to under 50 bcm/yr. These are not “captive” markets, as might have been expected.
### Russian export prices to CIS countries

<table>
<thead>
<tr>
<th>$/mcm</th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
<th>2012</th>
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<tbody>
<tr>
<td>Ukraine</td>
<td>130</td>
<td>180</td>
<td>236</td>
<td>260</td>
<td>330</td>
<td>424</td>
<td>414</td>
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<tr>
<td>Belarus</td>
<td>118</td>
<td>127</td>
<td>151</td>
<td>185</td>
<td>270</td>
<td>166</td>
<td>163</td>
</tr>
<tr>
<td>Moldova</td>
<td>170</td>
<td>236</td>
<td>238</td>
<td>265</td>
<td>343</td>
<td>375*</td>
<td>375*</td>
</tr>
</tbody>
</table>

*announced “average price” 2012-14

“European” prices ($10-12.00/mmbtu in 2012) for Ukraine and Moldova are 3-4 times higher than Russian domestic prices.

These have become valuable markets but at these prices Ukraine volumes fell significantly.
Ukraine and Belarus negotiating power has declined but not disappeared

- Decline of negotiating power linked to transit has been the major factor of price formation in the 2010s, with the western CIS remaining a major – but in Ukraine’s case not captive – market for Gazprom
- Pricing has remained a major source of conflict. The risk of disruption to transit (and its impact) has declined post-Nord Stream – but in Ukraine still remains significant (at least 1/3 of Gazprom exports needs to flow across Ukraine)
- Changing pricing paradigm in Europe is a strong argument for changing pricing principles in the CIS, especially with reverse flow possibilities
Central Asian imports have become very expensive and are not needed by Gazprom.

2013 average prices: Central Asian/Caspian imports $275.80/mcm, Russian sales $102.60/mcm, CIS sales $267.10/mcm
The Asian Market
Export sales based around LNG and piped gas

*Four LNG projects could export 40mtpa*

- Russia has multiple options for gas exports via LNG and pipeline
- By 2025 total Eastern exports could reach 100 bcm/year, or two thirds of the current level of exports to Europe
- The China pipeline export route could match current gas sales to Germany
- However, decisions about the prioritisation of projects and the sources of gas for liquefaction remain uncertain until full extent of China deal is confirmed and construction of pipe starts
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 Rosneft and Novatek are becoming more assertive. Both formed links with CNPC before Gazprom. Rosneft is now asking for third-party access to the Power of Siberia pipeline.
Russia’s Eastern strategy will be based around gas exports to China

- Pipeline infrastructure is the key to opening up Russia’s vast eastern resource base
- May 2014 deal between Gazprom and CNPC allow this foundation to be built
- Final terms have yet to be revealed, but the commercial logic and the inferred price appear to meet the objectives of both sides

Source: Gazprom
The Russian domestic gas market
Russian demand: back to pre-crisis levels, but no higher

Demand fell by 1.6% in 2012 and 1.0% in 2013, to 461.3 bcm

Consensus forecast to 2020: no return to 2-2.5% annual demand growth. It is likely to be 0-1.5% ... and could even be negative

Source: Rosstat
Can Russia replicate Ukraine’s reduction in gas consumption vs. GDP?

Gas consumption (solid lines) vs GDP (broken lines).

2008 = 100.
**Competition: non-Gazprom producers are heading for a 50% market share**

*How is Russian gas demand satisfied?*

<table>
<thead>
<tr>
<th>Category</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Demand</td>
<td>461cm</td>
</tr>
<tr>
<td>Own Use</td>
<td>40bcm</td>
</tr>
<tr>
<td>Gazprom sales</td>
<td>228bcm</td>
</tr>
<tr>
<td>Gazprom sales of 3rd party gas</td>
<td>37 bcm</td>
</tr>
<tr>
<td>3rd party direct sales</td>
<td>156 bcm</td>
</tr>
</tbody>
</table>

- Total Russian gas demand in 2013 was 461cm
- Own use for transport accounted for 40bcm of this
- Gazprom sales from equity production totalled 228bcm
- Third parties sold 37 bcm (including imports) to Gazprom and sold 156 bcm directly to consumers
Regulated prices have risen steadily for 15 years. They now cover costs of prod’n and transport.

- Up to 2011, independents sold at a premium to regulated prices
- In 2012, non-Gazprom producers offered a discount to the regulated price
- Gazprom is now (2014) lobbying for the right to sell in a pricing corridor with up to 15% discounts from regulated prices
Gazprom’s role in the domestic market is in decline, as it competes on price

- Gazprom has found its dominant role in the Russian market also being challenged
- Rising domestic prices have encouraged Gazprom’s development plans but have also incentivised “independent” supply
- The Russian gas price has now reached a level where independents can undercut Gazprom, take market share and still make significant profits
- Gazprom’s gas has become the “least desirable option” for many of its customers, who have now signed up with its competitors
Gazprom domestic sales have fallen by 90 bcm*

- Gazprom’s gas sales in Russia have been in decline since well before the 2008 crisis
- Initially this was driven by production issues, as 3rd party gas allowed for greater Gazprom exports
- However, sales have not recovered, and fell again in 2012-13
- This is now driven by price competition and active 3rd party marketing of gas

* Excludes inter-company sales
Gazprom’s customer base in the domestic market is deteriorating

- Gazprom is not only losing market share but it is also seeing its best customers being cherry-picked by the competition.
- Since 2006, the share of power industry customers has fallen by from 37% to 27%.
- Conversely, the share of residential and municipal customers has risen. These customers are poorer payers of gas bills.
- High-revenue regions account for 98% of Rosneft’s sales, 60% of Novatek’s sales, but only 5% of Gazprom’s (Gazprom numbers).

Quality of customers declining

Non-payments are on the rise

Overdue debt:
- 1.1.13: 83 bn rubles
- 1.1.14: 116 bn rubles
- 1.4.14: 141 bn rubles

Level of overdue debt:
- 10.9% residential
- 36.9% local government
- 21.7% district heating
More reforms ... but not total liberalisation

- Gazprom is likely to get permission to sell at discounts to the regulated price, further reducing the significance of the price
- The European netback target could be formally abandoned. Such proposals were aired at the presidential commission on energy in June
- President Putin is insistent that there must be “one gas transport tariff for all users of the pipeline system” – although unbundling is unlikely
- The independents say domestic transport tariffs should not include the cost of investment in export pipelines, unless export rules change ...
- Rosneft and other non-Gazprom producers are lobbying for capacity in the Power of Siberia pipeline
Conclusions

- Demand has flattened since the crisis, and could fall
- Power and heat sector investment improves efficiency and destroys demand
- There is fierce competition between suppliers to the power and industry sectors. Gazprom is losing market share. Rosneft and Novatek will continue to challenge
- Government policy on tariffs has changed. The aim of achieving European netback parity has been superceded. Prices are at cost-recovery levels for all suppliers; they are competing at below regulated price
- There is third party access, but no framework for investment in pipeline infrastructure
- Reform will continue, but continue slowly
Gazprom and Independent supply
### Russian Gas Production 2006-13 (Bcm)

<table>
<thead>
<tr>
<th>Source: Gazprom</th>
<th>2006</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
<th>2012</th>
<th>2013</th>
</tr>
</thead>
<tbody>
<tr>
<td>GAZPROM</td>
<td>556.0</td>
<td>549.7</td>
<td>461.5</td>
<td>508.6</td>
<td>513.2</td>
<td>487.0</td>
<td>487.4</td>
</tr>
<tr>
<td>OTHER PROD’ERS</td>
<td>100.2</td>
<td>113.9</td>
<td>120.9</td>
<td>141.7</td>
<td>155.8</td>
<td>168.0</td>
<td>180.6</td>
</tr>
<tr>
<td>TOTAL RUSSIA</td>
<td>656.2</td>
<td>663.6</td>
<td>582.4</td>
<td>650.3</td>
<td>669.0</td>
<td>655.0</td>
<td>668.0</td>
</tr>
</tbody>
</table>

- Gazprom’s production has been in long-term decline since 1991
- The trend has been exacerbated since 2008 due to slowing demand for its gas and increased competition from domestic and international peers
- It seems entirely credible that a recovery to 2006 levels will not be possible within the next decade
Gazprom has plenty of resources but is struggling to find a market for them

- Gazprom’s reserve base remains enormous, with its ABC1 reserves consistently increasing
- Gazprom’s plans have been hit by a combination of external shocks and internal investment and marketing decisions
  - Impact of US shale gas
  - Economic crisis and rise of renewables (and coal) in Europe
  - Rising oil price and continuation of oil-linked pricing strategy
  - Emergence of competitive non-Gazprom supply in Russia
  - Decision to proceed with development of Yamal gas in 2006

Gazprom reserves

Gazprom production forecasts and results

<table>
<thead>
<tr>
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</tr>
</thead>
<tbody>
<tr>
<td>Gazprom Production (actual)</td>
<td>508.6</td>
<td>513.2</td>
<td>487</td>
<td>487.4</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Gazprom Projections (date of projection)</td>
<td>2009</td>
<td>507</td>
<td>510</td>
<td>523</td>
<td></td>
<td>615</td>
<td>620</td>
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<tr>
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<td>2010</td>
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<td>Feb-13</td>
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<td>518</td>
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<td></td>
<td>Dec-13</td>
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<td>Jun-14</td>
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<td></td>
<td></td>
<td></td>
<td>463</td>
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</tr>
</tbody>
</table>

Source: Gazprom AGM, June 2013; IFRS 2013
In the minimum variant, “west-facing” production is static and possibly declining...

therefore “west facing” production may have peaked

For western markets, Gazprom will be developing Yamal gas to replace old NPT fields at higher cost than independent gas

The independents: Yamal LNG project marks major shift in Russian gas strategy

- Novatek’s major growth asset is Yamal LNG, where it has 60% stake
- It also marks a significant change in the company’s position in the global gas market, providing an opportunity to sell to west and east
- Technical challenges remain, but government support and the progress already made to date suggests that the project will be online by 2018
The independents’ potential future role

Independents could theoretically produce over 300bcm/a by 2020

Their gas is generally lower cost than Gazprom’s new developments in Yamal, giving a competitive advantage

Exports of LNG will provide a first entry into global markets which could expand further if political support is maintained

The market appears to be developing as a triopoly
Conclusions on Russian Gas Supply

- 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.
The 2014 Ukraine crisis: a new era for Russian gas?
Europe
A “trade war” in progress?

- Crisis in Russian relations with Europe
- Sanctions and counter-sanctions – mainly targeted at oil not gas – resemble a ‘trade war’
- Very difficult to conduct “normal commercial” gas relations in this environment, or even to arrange meetings to discuss: OPAL, South Stream, general regulatory issues
- Hard to see relations “getting back to normal”, even if Ukraine political situation settles down
- Continuing threat of supply interruption due to: Ukrainian sanctions; Ukrainian winter requirements; attempts to change contractual transit structures
South Stream: political/regulatory challenges

- In the wake of the Ukrainian crisis, the EU is questioning political acceptability of Russian gas and hence desirability of new routes that would bring it to Europe.
- The EU-Russia working group investigating South Stream compatibility with the third Energy Package has failed to make progress due to worsening politics.
- The EC opened an investigation into legality of construction tender award. Bulgaria has agreed to “freeze” the project “as long as the EU is making checks under the infringement procedure.”
- Regulatory solution might be impossible to achieve unless the EU-Russia political relationship improves.

South Stream has not been formally suspended but any progress very difficult until and unless the EU-Russia political relationship (over Ukraine) improves.
Geopolitical concerns create renewed calls for diversification

- Highly dependent countries should diversify into LNG supplies (especially Baltics)
- Europe should form an “Energy Union” to jointly negotiate with Russia on gas (Donald Tusk - president-elect, European Commision)
- A newly aggressive Russia will use gas as a political lever in Europe including….
- the threat of diversifying supplies to China at the expense of European customers
What are the **real** possibilities to reduce Russian gas deliveries to Europe

- Consequences of terminating long term contracts – 00s of billions of € at stake
- European production: Dutch cap in place since January 2014; Norwegian plateau then decline; all other conventional gas in decline
- European unconventional gas - minimal
- North Africa: crisis and decline
- East Mediterranean: uncertain volume/timing
- Southern Corridor: 10 Bcm maximum by 2020
- LNG from a variety of sources (including North America): will depend on global demand and price

CONCLUSION......
Europe will need a minimum of 100 Bcm/year of Russian gas until 2030 but...

HIGHLY DEPENDENT COUNTRIES/REGIONS HAVE OPTIONS TO DIVERSIFY:

- Baltic countries can import LNG through new receiving terminals
- South East European countries can import Azeri gas and LNG but will need new pipeline connections
- Central European countries can reduce dependence by reverse-flowing imported LNG NW Europe

But all of this will take time and significant cost
Gazprom’s long term take or pay contracts with European customers to 2030

Even at 70% ToP, Gazprom’s average annual sales exceed 100 Bcm/year until the mid-2020s

Source: ERI RAS in Henderson and Pirani (OIES 2014)
Asia
China price appears to be reasonable for Russia and is competitive with cost of supply of alternative gas

- Despite the high costs of Russia’s gas export projects to Asia they can be competitive on cost with other global exporters

- The proximity of the Russian East to Asian markets keeps transport costs down

- The price of the China deal appears to have been struck to allow Gazprom a reasonable (10-12% real) rate of return, as long as it enhances synergy benefits
• Chinese gas demand remains a very uncertain figure – 38bcm will now be supplied by Russia (at least)

• Chinese shale estimates downgraded (now 30bcm in 2020) but domestic supply is still set to rise

• How much room will there be in the Chinese market for LNG or future pipelines (including from Russia?)
Impact of Sanctions on LNG Projects

- Company financial (and personal) sanctions on: Gazprom (US), GazpromBank, Novatek (US), Rosneft
- Technology sanctions currently targeted at Arctic, Deep Water and Unconventional Activity
- Definition of sanctionable activities and areas remains unclear
- Gas specifically excluded for the time being but…
- key LNG technology is sourced in the US
- Impact of financial sanctions is most important at present (Novatek searching for project financing for Yamal LNG)
- How much will Russia want to rely on Asia, and specifically China, for financial support?
- Many Asian buyers will be disinclined to purchase Russian LNG while sanctions are in force
Ukraine crisis: no easy answers
Ukraine crisis: can gas be separated from military and political issues?

- Gas deliveries have stopped. Three-sided talks at political level (EC, Russia, Ukraine) held intermittently. Arbitration cases to Stockholm by Gazprom (on unpaid debts) and Naftogaz (on price)

- Naftogaz debts to Gazprom: $1.45 bn for Nov-Dec 2013, plus $3 bn for April-May (disputed in part) and $0.8 bn for June. Gazprom has also raised issue of $11.4 bn ToP penalties

- 26 September EU-Russia-Ukraine talks showed that Russia and Ukraine are not far apart on price. But bad political relations meant that they have not resolved their differences

- Military conflict quieter since the ceasefire (5 September), but it has not stopped. The trade/sanctions war has begun and may intensify. Russia-EU tension is focused on Ukraine. Previous gas deals were underpinned by bilateral political agreements: no such thing is likely at present
Russia-Ukraine-EC gas talks 26 September, 2014: an attempt to negotiate a “winter package”

- **Russia’s position:** $3.1 bn debt must be repaid by end 2014 (of which, $2 bn by end October). Prepayment for winter deliveries, of 5 bcm in Q4 2014 under TOP, with an option of 2 bcm + in Q1 2015. Import price $385/mcm

- **Ukraine’s position:** could pay $3.1 bn by end of 2014 (out of IMF loan already received), as prepayment for winter 2014 supplies. Import price of $385/mcm should not be based on export duty relief

- **EC compromise offer:** Ukraine to pay $2 bn by end October (EC to file for guarantees with IMF), plus prepayment; supplies to start once these payments are made. A further $1.1 bn to be paid by end 2014. Import price $385/mcm

Commissioner Oettinger asked Russia and Ukraine to resolve disputed questions by 7 October. Nothing agreed so far.
The 2009 Supply & Transit Contracts: what the arbitral tribunal will examine

- **Key clauses:**
  - (Post-2009) ACQ 52 bcm (with 80% Take-or-Pay)
  - Prepayment if a single payment missed
  - 110 bcm transit (without Ship-or-Pay)
  - Transit Tariff = 0.5*$2.04 + 0.5*(previous year tariff) + fuel gas component (correlates with gas price)
  - Arbitration & force majeure (both contracts)

- **Fault-lines:**
  - very high base price, very high ACQ against sharply falling Ukrainian gas demand; very strict (by CIS standards) payment terms; absence of Ship-or-Pay guarantees

The 2009 import contract is valid until 2019, but the price no longer reflects market conditions
Ukraine gas import prices: what the arbitral tribunal will consider

Reverse flow Germany (NCG): 2013 average (all suppliers) $399/mcm ... higher than Gazprom prices in Europe ($387/mcm), lower than Gazprom prices in Ukraine ($415/mcm). June 2014 (reported) $366.90/mcm.

Netback (Gazprom numbers): In Russia, $201/mcm in 2013, $206/mcm in 2014 (proj.) Add ~ $29/mcm for transport, + (presumably) export duty. (Putin-Yanukovich price $268.50/mcm)

Net forward from Russia (not available to Ukraine): 2013 avg domestic gas price $103/mcm. 2014 for industrial customers near Ukraine border, $119/mcm (+ VAT + transport + export duty). (Belarus import prices $163/mcm in 2013)
Gas import prices: OIES conclusions

- In 2013, Gazprom import prices to Ukraine ($415/mcm) were higher than both Gazprom prices in Europe ($377-388/mcm) and than reverse flow prices ($399/mcm average). This year these gaps widened.

- The contract price ($486/mcm) look unsustainable: other Gazprom European sales contracts have been renegotiated, but this one has not.

- Gas will continue to lose out to coal, where switching is possible – as it is doing in Europe.

- The statements made in August by Russia and Ukraine were not far apart on gas prices.
The short term: what will happen this winter?
Ukraine supply 2014

- Ukraine’s 2013 gas consumption was 50.3 bcm, already down sharply from the mid 2000s.
- Consumption could fall further – but can it do so this year?
- Jan-May 2014 imports were 12.5 bcm (up from 9.3 bcm y-o-y); consumption was 23.2 bcm (down from 26.5 y-o-y)
- Gas balance for Oct-Mar: 28.65 bcm. Without Russian imports, and without warm weather, there is a risk of serious hardship
- Can Donetsk and Lugansk regions (about one fifth of total consumption) be supplied outside of the Naftogaz contract? And maybe other regions too?
- The crisis is reshaping the Ukrainian market via reverse flow
- The crisis has focused Ukrainian officials’ minds on energy saving issues that have been ignored for years
## Meeting demand July 2014-April 2015

<table>
<thead>
<tr>
<th>bcm</th>
<th>Gas balance forecast</th>
<th>&quot;Survival&quot; scenario, with cuts to industry</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Tech.</td>
<td>Pop'n*</td>
</tr>
<tr>
<td>July</td>
<td>0.25</td>
<td>0.44</td>
</tr>
<tr>
<td>August</td>
<td>0.30</td>
<td>0.46</td>
</tr>
<tr>
<td>September</td>
<td>0.42</td>
<td>0.87</td>
</tr>
<tr>
<td>October</td>
<td>0.36</td>
<td>2.22</td>
</tr>
<tr>
<td>November</td>
<td>0.36</td>
<td>2.70</td>
</tr>
<tr>
<td>December</td>
<td>0.36</td>
<td>4.20</td>
</tr>
<tr>
<td>January</td>
<td>0.35</td>
<td>5.20</td>
</tr>
<tr>
<td>February</td>
<td>0.30</td>
<td>4.30</td>
</tr>
<tr>
<td>March</td>
<td>0.23</td>
<td>3.10</td>
</tr>
<tr>
<td>April</td>
<td>0.25</td>
<td>1.55</td>
</tr>
<tr>
<td>Total (10 m.)</td>
<td>3.18</td>
<td>25.04</td>
</tr>
</tbody>
</table>

- Cuts in the "survival" scenario = 1 bcm/month Oct-Feb, 0.5 bcm in March
- Even so, total "survival" scenario demand (Jan-Mar) = 14.7 bcm
- Total supply for Jan-Mar in the draft gas balance = 11.6 bcm (with transit) or 8.9 bcm (with no transit)

* "population" category presumably includes district heating. Source: Zerkalo Nedeli, 18 July
## Can Ukraine get through the winter without Russian imports?

<table>
<thead>
<tr>
<th>Supply</th>
<th>Ukraine own production</th>
<th>From storage</th>
<th>Reverse flow</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gas balance forecast (July)</td>
<td>9.9</td>
<td>7.94</td>
<td>5.4</td>
<td>23.24</td>
</tr>
<tr>
<td>Gas balance announced (September)</td>
<td>10.15</td>
<td>11.58</td>
<td>6.19</td>
<td>27.93</td>
</tr>
</tbody>
</table>

### Demand

| Winter 2014-15 gas balance forecast (July) | 31.8 |
| Winter 2014-15 “emergency scenario” (July) | 26.3 |
| Winter 2014-15 gas balance announced (September) | 28.65 |
| Winter 2012-13 actual | 38.04 |
| Winter 2013-14 actual | 33.97 |

**Sources.** Draft government documents published by *Zerkalo Nedeli* (July); gas balance reported by Interfax (Sept); energy ministry statistics (previous years). **Note.** Winter = October-March

Not without good weather, continued ceasefire, a big slice of luck ... and, possibly, rationing
Reverse flow: Ukraine’s main alternative

<table>
<thead>
<tr>
<th>Capacity, winter 2014-15</th>
<th>m cu m/day</th>
<th>bcm/yr equivalent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Poland</td>
<td>4.5</td>
<td>1.64</td>
</tr>
<tr>
<td>Hungary</td>
<td>15</td>
<td>5.5</td>
</tr>
<tr>
<td>Slovakia</td>
<td>27</td>
<td>9.85</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>46.5</strong></td>
<td><strong>16.99</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Reverse flows, bcm</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>2013</td>
<td>2.1</td>
<td></td>
</tr>
<tr>
<td>Jan-Sep 2014</td>
<td>2.2</td>
<td></td>
</tr>
<tr>
<td>Oct 2014-Mar 2015, proj.</td>
<td>6.2</td>
<td></td>
</tr>
</tbody>
</table>

- Payment risk is an issue: current deliveries are made on pre-payment basis
- Sept 2014: temporary reduction of Russian flows on technical grounds
- Slovakian capacity booked by Naftogaz

“Big reverse” via Slovakia (30 bcm/year) unlikely in the short or medium term

Source: Naftogaz/press reports
The long term: is this where Ukraine and Russia get uncoupled?
Ukraine 2015-2020: markets drive change

- Will the Gazprom-Naftogaz oil-linked long-term contract (2009-2019) be the last of its kind? Will it survive to 2019?
- Will IMF and EU influence on Ukrainian policy help to push gas market reform? Will Naftogaz be split up?
- Will upstream development recover from crisis impact? (Now, shale and offshore projects are on hold.)
- Will the Ukrainian market return to the multi-buyer model? (Half of 2013 imports were by non-Naftogaz buyers; that can be resumed.)
- Will western European companies participate in the Ukrainian market?
- In future, could gas be purchased on the Russian border for transit to, and sale in, European markets?
Conclusions
The Russian Gas Matrix: markets have driven change

- Market factors have begun to reshape the Russian gas sector
- Gazprom is facing an increasing struggle to balance its commercial and political objectives
- However, it is gradually adjusting to the new more competitive environment across all its markets
- Russia remains in a theoretical oversupply situation
- Gazprom has acted as a buffer, or shock absorber, for the global gas market since 2008
- However, it is in a strong geographical and cost-of-supply position which it can exploit with the right marketing strategy
- The May 2014 China export deal provided some evidence that Gazprom has re-asserted its dominant position
- The shift from monopoly to oligopoly in the Russian gas sector is likely to continue in both domestic and export markets
A New Era: will politics drive change in export markets?

- **EUROPE**: overall exports will be maintained at >100 Bcm/year but highly dependent countries/regions may diversify for geopolitical reasons (despite the costs)
- **FSU**: Ukraine enters a new era progressively uncoupled from Russian gas – with greater ties to EU gas markets
- **ASIA**:
  - China pipeline supplies will start around 2019/20; signing of Altai pipeline would be a major step forward
  - LNG export projects may be delayed due to sanctions and financing problems
Russia faces many competitive threats, but has a potentially very powerful position at the heart of the global gas market.

Source: WEO 2013
Thank you for your attention

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