Russian Nitrogen Fertilizer Market

TFI’s Outlook and Technology Conference
Charleston, South Carolina, U.S.A.
11-13 November, 2008
Presentation Overview

- Country Profile: Natural Gas Reserves
- Nitrogen Industry: Overview and Recent Developments
- Agriculture
- Fertilizer Consumption
  - Breakdown by Regions and Products
  - History and Forecast
  - Agricultural Equipment for Fertilizer Application
- Domestic Fertilizer Trading
- Key Domestic Players in Nitrogen Fertilizer Segment
- Overview of Russian Biofuel: Market of Future
- Domestic Market Overview
  - Drivers for Growth
  - Threats for Stagnation
- Conclusion
Country Profile: Natural Gas Reserves (I)

Russia’s Position in Global Ranking by Gas Reserves and Production, 2006

Reserves

- **Russia**: (26%)
- Iran
- Qatar
- Saudi Arabia
- U.A.E.
- USA
- Nigeria
- Algeria
- Venezuela
- Iraq
- Kazakhstan
- Other (>35 countries)

Production

- **Russia**: (21%)
- USA
- Canada
- Iran
- Norway
- Algeria
- UK
- Indonesia
- Saudi Arabia
- Turkmenistan
- Netherlands
- Other (>35 countries)

Source: BP (Reserves: Proved Reserves at end of 2006)
Country Profile: Natural Gas Reserves (II)

Structure of Gas Reserves in Russia by Ownership in 2006, % and trillion cubic meters

- **Undistributed/Non-licensed Fund**: 16%
  - Gazprom (controlled reserves): 63% (29.85 trillion cubic meters)
  - Independent Producers: 21% (10.2 trillion cubic meters)
  - Rosneft
  - Lukoil
  - Novatek
  - Northgas
  - Surgutneftegaz
  - TNK-BP
  - Itera, etc.

Total Volume of Gas Reserves in Russia: 48 trillion cubic meters

Source: Gazprom (Reserves as per 31.12.2006)
Nitrogen industry of Russia is an export oriented industry: it is the 1st or 2nd leading exporter in the world for all straight nitrogen products. Domestic market is rather a strategic or balancing profit issue.

<table>
<thead>
<tr>
<th>Product</th>
<th>Number of Plants</th>
<th>Share in World’s Production</th>
<th>Share in World’s Exports</th>
<th>Rank in World’s Exports</th>
</tr>
</thead>
<tbody>
<tr>
<td>AMMONIA</td>
<td>17 plants</td>
<td>8%</td>
<td>19%</td>
<td>№2</td>
</tr>
<tr>
<td>UREA</td>
<td>12 plants</td>
<td>4%</td>
<td>13%</td>
<td>№2</td>
</tr>
<tr>
<td>AN</td>
<td>11 plants</td>
<td>21%</td>
<td>39%</td>
<td>№1</td>
</tr>
<tr>
<td>UAN</td>
<td>4 plants</td>
<td>7%</td>
<td>22%</td>
<td>№1</td>
</tr>
</tbody>
</table>
Original location of plants was determined by the idea to meet the needs of domestic market; yet for the past decade international market situation proved to be more attractive for the Russian producers to deliver up to 80% of their fertilizers to foreign customers.
Russian Nitrogen Industry: Recent Developments (I)

Nitrogen fertilizer assets

holdings consolidation

Restructuring of nitrogen industry continues

Rising feedstock costs do not hinder project announcements

RUSSIAN NITROGEN INDUSTRY DEVELOPMENT
Russian Nitrogen Industry: Recent Developments (II)

Major Events Inside the Industry and General Impact of Other Related Domestic Factors

- **Development and expansion**: New gas trading “5+5 system” launched.
- **Marketing**
  - Management focus on long-term strategies and IPOs ideas.
  - Marketing structure change: FCA/FOB to CFR/CIF/DAF sales.
- **Domestic distribution networks**
- **2004-2006**

New Holding Agroprodmir
Russian Nitrogen Industry: Recent Developments (III)

New projects announcements driven by increasing margins from international sales.

New export tariffs
Quota restrictions to follow (?)

New projects

New holding Jralchem
Mitsui – nitrogen complex in Sakhalin (?)
CAN expansion at Novomoskovsk
VSGC–ammonia/methanol Yakutsk (?)

UAN Acron plant launched
Tatgazinvest Ammonia/Urea in Mendeleevsk

2007-2008

Note: VSGC = Vostochno-Sibirskaya Gosochemical Company
Russian Agriculture: Global Indicators

- No. 1 in the global ranking of barley, sunflower seed, rye, and oats producers in the world.
- No. 2 among the world top potato producers after China.
- No. 4 among the world’s largest wheat producers after China, India, and the USA.
- One of the world leaders in sugar beets, buckwheat, carrots and cabbages production.
- Among the top 10 leading exporters of wheat in the world.

**World WHEAT Producers’ Ranking:** Top 10 Countries by Output in 2005 (mln. t)

1. China: 96.3
2. India: 72.0
3. USA: 57.1
4. Russia: 47.6
5. France: 36.9
6. Canada: 25.5
7. Australia: 24.1
8. Germany: 23.6
9. Pakistan: 21.6
10. Turkey: 21.0

**World BARLEY Producers’ Ranking:** Top 10 Countries by Output in 2005 (mln. t)

1. Russia: 15.8
2. Canada: 12.1
3. Germany: 11.7
4. France: 10.4
5. Ukraine: 9.0
6. Turkey: 9.0
7. Australia: 6.6
8. UK: 5.5
9. USA: 4.6
10. Spain: 4.4

**World OATS Producers’ Ranking:** Top 10 Countries by Output in 2005 (mln. t)

1. Russia: 4.6
2. Canada: 3.3
3. USA: 1.7
4. Poland: 1.3
5. Finland: 1.2
6. Australia: 1.1
7. Germany: 1.0
8. China: 0.8
9. Belarus: 0.8
10. Sweden: 0.7

Source: FAO (2005, latest year available)
Russian Agriculture: Domestic Indicators

- The share of rural population is 27% of total country’s population of 143 million people.
- The largest part – slightly less than 60% - of total area under agricultural crops in Russia in 2007 was used for the production of grains (wheat, barley, oats, rye, and others). Oil crops accounted for about 10%.

**Structure of Grains Output by Crop Types in Russia in 2007**

<table>
<thead>
<tr>
<th>Crop Type</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wheat</td>
<td>60%</td>
</tr>
<tr>
<td>Barley</td>
<td>19%</td>
</tr>
<tr>
<td>Oats</td>
<td>7%</td>
</tr>
<tr>
<td>Maize for grain</td>
<td>5%</td>
</tr>
<tr>
<td>Rye</td>
<td>5%</td>
</tr>
<tr>
<td>Groats</td>
<td>2%</td>
</tr>
<tr>
<td>Grain legumes</td>
<td>2%</td>
</tr>
</tbody>
</table>

Source: Federal State Statistics Service of Russia, 2008
Russian Fertilizer (N+P+K) Consumption in Agriculture: Breakdown by Regions (FD = Federal Districts)

- Central FD (33%)
- Volga FD (28%)
- Southern FD (27%)
- Siberian FD (4%)
- North-Western FD (3%)
- Far-Eastern FD (1%)

88%
Russian Fertilizer Deliveries to Agriculture: Breakdown by Products (share estimates in nutrient N value), 2007

The bulk of N consumed in Russian agriculture is Ammonium Nitrate.

AN is the most popular nitrogen fertilizer among Russian farmers and the product is forecast to retain its dominant position in the Russian agriculture in the future.

Source: BSC estimates, Azotecon // Note: data excludes the amount of fertilizer consumed in industrial sector
Russian Fertilizer Consumption: History and Forecast

Use of Mineral Fertilizers in Agriculture, kg/ha

<table>
<thead>
<tr>
<th>Year</th>
<th>Use of Mineral Fertilizers in Agriculture, kg/ha</th>
</tr>
</thead>
<tbody>
<tr>
<td>2000</td>
<td>19</td>
</tr>
<tr>
<td>2001</td>
<td>19</td>
</tr>
<tr>
<td>2002</td>
<td>21</td>
</tr>
<tr>
<td>2003</td>
<td>21</td>
</tr>
<tr>
<td>2004</td>
<td>23</td>
</tr>
<tr>
<td>2005</td>
<td>25</td>
</tr>
<tr>
<td>2006</td>
<td>27</td>
</tr>
<tr>
<td>2007</td>
<td>33</td>
</tr>
</tbody>
</table>

Use of Mineral Fertilizers in Agriculture, mln t nutrients

<table>
<thead>
<tr>
<th>Year</th>
<th>Use of Mineral Fertilizers in Agriculture, mln t nutrients</th>
</tr>
</thead>
<tbody>
<tr>
<td>2000</td>
<td>1.4</td>
</tr>
<tr>
<td>2001</td>
<td>1.3</td>
</tr>
<tr>
<td>2002</td>
<td>1.5</td>
</tr>
<tr>
<td>2003</td>
<td>1.3</td>
</tr>
<tr>
<td>2004</td>
<td>1.4</td>
</tr>
<tr>
<td>2005</td>
<td>1.4</td>
</tr>
<tr>
<td>2006</td>
<td>1.5</td>
</tr>
<tr>
<td>2007</td>
<td>1.7</td>
</tr>
<tr>
<td>2008</td>
<td>2.0</td>
</tr>
<tr>
<td>2009</td>
<td>2.2</td>
</tr>
<tr>
<td>2010</td>
<td>2.5</td>
</tr>
<tr>
<td>2011</td>
<td>2.7</td>
</tr>
<tr>
<td>2012</td>
<td>3.0</td>
</tr>
</tbody>
</table>

Government’s Target Growth*

*Acc. to the State Program for the Development of Agribusiness and Regulation of Agricultural Goods’, Raw Materials’ and Food’s Markets for 2008-2012

Source: Federal State Statistics Service of Russia, Russian Ministry of Agriculture
While old agricultural equipment wears down and fails to function, it is being replaced by the new modern machines for fertilizer application, which are more efficient and long-lasting.

Source: Federal State Statistics Service of Russia
Domestic Fertilizer Trading: 2006 - 2008

Fertilizer Exchange trading in Russia was recently introduced for the following reasons:

- to make fertilizer market more transparent;
- to develop competitiveness of domestic fertilizer sales;
- to diversify sourcing opportunities for export deliveries;
- to provide alternative options for supply of raw materials.

Two platforms for fertilizer exchange trading in Russia:

- Moscow Stock Exchange (MSE)
- Universal Mercantile Exchange “UMEX” in St. Petersburg

Fertilizer producers involved in fertilizer trading as suppliers of products:

- Balakovskiy Mineral Fertilizers, Balakovo
- Ammophos, Cherepovets
- Azot, Cherepovets
- Silvinit
- Uralkali
- Kuybyshhevazot
- Rossosh
- Meleuz

Range of fertilizers includes AN, NPK, DAP, MAP, NP, MCP, apatite concentrate, MOP, urea, phosphoric acid, etc. The products are offered as bulk, in bags or big bags.
### Key Domestic Players in Nitrogen Fertilizer Segment

<table>
<thead>
<tr>
<th>Domestic distribution</th>
<th>Product Portfolio (N)</th>
<th>Fertilizer sales to domestic market in 2007</th>
<th>% of fertilizer sales to Russia in Company’s total fertilizer sales</th>
<th>Company</th>
</tr>
</thead>
<tbody>
<tr>
<td>“EuroChem-Agronetwork” includes 23 distributing centres in Russia</td>
<td>AN, CAN, Urea, UAN, MAP, DAP, NPK, NP, NK</td>
<td>&gt; One million tonnes</td>
<td>15% in total fertilizer sales</td>
<td>EuroChem</td>
</tr>
<tr>
<td>Established in 2005 “Agronova” network includes 20 distributing centres in Russia</td>
<td>AN, Urea, UAN, NPK</td>
<td>0.8 million tonnes</td>
<td>22% in total fertilizer sales</td>
<td>Acron</td>
</tr>
<tr>
<td>One of the new holdings in Russia: two N plants Kirovo-Chepetsk and Azot Berezniki</td>
<td>AN, SAN, CAN, Urea, NPK</td>
<td>0.9 million tonnes</td>
<td>28% in total fertilizer sales</td>
<td>Uralchem</td>
</tr>
<tr>
<td>Sales via the trading house “Rosagrotrade”</td>
<td>AN, NPK</td>
<td>0.52 million tonnes</td>
<td>30% in total fertilizer sales</td>
<td>Rossosh</td>
</tr>
<tr>
<td>Sales via own agrochemical centres, representatives or dealers</td>
<td>AN, Urea, AS, UAN</td>
<td>0.5 million tonnes</td>
<td>44% in N fertilizer sales of KUAZ</td>
<td>KUAZ</td>
</tr>
</tbody>
</table>
Overview of Russian Biofuel: Market of Future

Russian Biofuels Association suggests the development of Russian biofuels’ market in two stages:

1. The development of bioethanol for export
2. The development of domestic consumption of bioethanol

The targeted production growth of rapeseed (one of the bio-crops) in Russia by 2012 is a five-fold increase from the current level.

Rapeseed Production in Russia (gross harvest, mln tonnes)

Government’s Target Growth*

Source: Federal State Statistics Service of Russia, Russian Ministry of Agriculture
Russian Domestic Market: Drivers for Growth

Strategies focused on domestic market development
Expansion of distribution networks

FERTILIZER PRODUCERS

Decline of international prices
Anti-dumping measures’ tightening
Pressure of low-cost nitrogen producers

Involuntary diversion of some of the traditionally exporting products to domestic consumers.

INTERNATIONAL MARKET

FOREIGN INVESTMENTS

FOREIGN INDUSTRIAL INVESTMENTS

Biofuel crops segment development
Increasing demand for technical purposes

National priority projects
Federal target programs
Financial, banking system
Export tariffs and quotas

INDUSTRIAL SEGMENT

GOVERNMENT

Foreign investments in Russian agribusinesses developing food processing industry
Russian Domestic Market: Threats for Stagnation

- Leftover principle in fertilizer application approach in Russian agricultural sector
- Decline of working age population in rural areas
- Underdeveloped storage infrastructure for fertilizers

- Rising production costs
- High logistics costs

- Inefficiency of governmental support
- Lack of systematic implementation in governmental programs at a regional level
Conclusion

- Domestic market development is of high strategic value for most fertilizer manufacturers.

- In the short-to-medium term the export share will retain its dominance in Russian nitrogen industry: the country has been and will remain the major player and exporter in the global international nitrogen trade.

- However, domestic market leaves vast opportunities with a large potential development for local producers to utilize their nitrogen products.

- As hedging from more pressure in the global trade at the bottom of the cycle the development of the domestic market might be a solution for surplus of products for Russian manufacturers.
Thank You!

Marina Simonova
marina.simonova@crugroup.com

British Sulphur Consultants