Moscow’s Energy Strategy toward Northeast Asia: Can Russia Realize Its Potential?

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Key Question

1. Can Russia use energy as a leverage to strengthen its power positioning in Northeast Asia?

2. How realistic is Russia’s energy “strategy”?

3. What kinds of bottlenecks await Russia’s eastward advancement?

4. Can untapped hydrocarbon potential in Eastern Russia (Eastern Siberia & the Far East) effectively meet energy demands in China and Japan?

5. Are China and Japan likely to compete for Russian energy?

6. Is it geopolitics or market that would enhance Russia’s regional roles in Northeast Asia?
Contents

I. Moscow Looks East

II. Lessons from the ESPO (Eastern Siberian - the Pacific Ocean) crude pipeline project

III. Eastern Gas Program

IV. Conclusion
I. Russia’s Eastward Energy Advancement

Untapped hydrocarbon resources in Eastern Russia vis-à-vis Energy Markets in China and Japan
I-1. Why does Moscow Look *East*?

(1) Gradual decline of energy potential in western Siberia

(2) New energy market opportunities in the Asia-Pacific as the center of gravity in the global economy

(3) The regional economic backwardness of Eastern Russia (approx. 60% of Russian territory) as geopolitical weakness

(4) Creation of the “Asia card” to brandish against the West (EU)
I-2. Russia’s Energy Strategy toward 2030

- Authorized in November 2009.
  (cf. RES toward 2020 in August 2003)
- Emphasis on accelerating development of eastern Russia (eastern Siberia & the Far East)

Targets of Increases in the Share of the Asia-Pacific Region in Russia's Oil and Natural Gas Exports (%)

<table>
<thead>
<tr>
<th></th>
<th>2008</th>
<th>2013～15</th>
<th>2020～22</th>
<th>2030</th>
</tr>
</thead>
<tbody>
<tr>
<td>crude &amp; oil products</td>
<td>8</td>
<td>10-11</td>
<td>14-15</td>
<td>22-25</td>
</tr>
<tr>
<td>natural gas</td>
<td>0</td>
<td>11-12</td>
<td>16-17</td>
<td>19-20</td>
</tr>
</tbody>
</table>
I-3. Russia’s Crude Trade with China and Japan

China’s Crude Oil Imports (1,000 tons)

Japan’s Crude Oil Imports (1,000 tons) from the Sakhalin project

Source: China Customs Office

Source: Japan Customs Office
I-4. Projection of Crude Oil Production (mln tons)

<table>
<thead>
<tr>
<th>Region &amp; Area</th>
<th>2005</th>
<th>2008</th>
<th>2013~15*</th>
<th>2020~22*</th>
<th>2030*</th>
</tr>
</thead>
<tbody>
<tr>
<td>The Far East</td>
<td>4.4</td>
<td>13.8</td>
<td>24.0</td>
<td>30.5</td>
<td>32.5</td>
</tr>
<tr>
<td>East Siberia**</td>
<td>0.2</td>
<td>0.5</td>
<td>27.0</td>
<td>46.5</td>
<td>72.0</td>
</tr>
<tr>
<td>West Siberia</td>
<td>334.3</td>
<td>332.7</td>
<td>302.0</td>
<td>298.5</td>
<td>302.0</td>
</tr>
<tr>
<td>Caucasian &amp; Caspian areas</td>
<td>4.9</td>
<td>4.8</td>
<td>9.0</td>
<td>19.5</td>
<td>21.5</td>
</tr>
<tr>
<td>Ural area</td>
<td>49.2</td>
<td>52.6</td>
<td>46.0</td>
<td>38.5</td>
<td>27.0</td>
</tr>
<tr>
<td>Volga area</td>
<td>52.7</td>
<td>54.1</td>
<td>49.5</td>
<td>44.5</td>
<td>35.0</td>
</tr>
<tr>
<td>Northern &amp; Northwest areas</td>
<td>24.5</td>
<td>29.1</td>
<td>33.5</td>
<td>35.5</td>
<td>42.5</td>
</tr>
</tbody>
</table>

*mean value between the forecasted minimum and maximum volumes; ** including the Sakha Republic
Source: The Energy Strategy of Russia for the period up to 2030.
I-5. Projection of Primary Oil Demand (Mtoe)

Source: World Energy Outlook 2009 (Reference Scenario)
I-6. Oil Demand and Net Imports in NEA

*Hong Kong included
I-7. Projection of Natural Gas Production (BCM)

<table>
<thead>
<tr>
<th>Year</th>
<th>Far East</th>
<th>Eastern Siberia</th>
<th>European regions</th>
<th>West Siberia</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>2005</td>
<td>3</td>
<td>4</td>
<td>46</td>
<td>588</td>
<td>641</td>
</tr>
<tr>
<td>2008</td>
<td>9</td>
<td>4</td>
<td>46</td>
<td>604</td>
<td>664</td>
</tr>
<tr>
<td>2013〜15*</td>
<td>37</td>
<td>11</td>
<td>72.5</td>
<td>592.5</td>
<td>715</td>
</tr>
<tr>
<td>2020〜22*</td>
<td>66</td>
<td>40.5</td>
<td>117.5</td>
<td>590.5</td>
<td>820</td>
</tr>
<tr>
<td>2030*</td>
<td>86</td>
<td>55</td>
<td>134</td>
<td>627</td>
<td>912.5</td>
</tr>
</tbody>
</table>

*mean value between the forecasted minimum and maximum volumes

Source: The Energy Strategy of Russia for the period up to 2030.
## I-8. Projection of Natural Gas Demand and Production in China (BCM)

<table>
<thead>
<tr>
<th>Year</th>
<th>China (production)</th>
<th>China (demand)</th>
<th>Japan (demand)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1980</td>
<td>14</td>
<td>14</td>
<td>25</td>
</tr>
<tr>
<td>2007</td>
<td>69</td>
<td>73</td>
<td>100</td>
</tr>
<tr>
<td>2015</td>
<td>104</td>
<td>142</td>
<td>102</td>
</tr>
<tr>
<td>2020</td>
<td>127</td>
<td>176</td>
<td>103</td>
</tr>
<tr>
<td>2025</td>
<td>136</td>
<td>210</td>
<td>105</td>
</tr>
<tr>
<td>2030</td>
<td>125</td>
<td>242</td>
<td>111</td>
</tr>
</tbody>
</table>

Source: *World Energy Outlook 2009* (IEA)
II. Lessons from the ESPO crude pipeline project

What has Moscow Achieved?
II-1. The ESPO Crude Oil Pipeline Route

Source: Economic Research Institute for Northeast Asia (ERINA)
II -2. Development of the ESPO project

- Sino-Russian talks had preceded Japan’s official announcement of its interest in possible participation in the ESPO pipeline project.

⇒ “Sino-Japanese scramble” over Russian oil

- In Dec. 2004, the ESPO project became a national project officially, the pipeline route varied more than once.

- Moscow remained equivocal with regard to a pipeline to China until the outbreak of 2008 financial crisis.
II-3. The 1st phase of the ESPO pipeline

- Taishet ~ Skovorodino (2,700km) - commenced in April 2006.
- Spur pipeline to China - to be completed by the end of 2010.
- Max. capacity: 30 mln tons / y - 15 mln tons for China by pipeline
  - 15 mln tons by rail to the oil terminal in Kozmino

Source: ERINA
II-4. The 2nd phase of the ESPO pipeline

- Skovorodino ~ Kozmino (approx. 2,000km)
  - commenced as a “snapshot decision” in Jan. 2010
- Max. capacity: another 50 mln tons / y (i.e. a grand total of 80 mln tons/y)
- Proven reserves for this phase is insufficient to date.

Source: ERINA
II -5. Crude reserves and resources in eastern Siberia

The top green domain, comprised of unproven reserves, must be explored successfully to realize the 2\textsuperscript{nd} phase of the ESPO pipeline extending to the Pacific Ocean


II -6. Securing Oil Reserves in Question

- It is urgent to increase the volumes of proven reserves in the adjacent areas of the ESPO pipeline:
  
  to 1.8 billion tons toward 2020;
  
  to more than 3 billion tons toward 2030.
  (Source: *RES toward 2030*, p.40)

- Yet, total amount of reserves in major oil fields in the adjacent areas of the ESPO pipeline as of Jan. 2007:
  
  825 million of proven reserves (categories A+B;C1);
  
  608 million of unproven reserves (category C2)
  (Source: calculated from *Toplivno-energeticheskii kompleks Rossii 2000-2008 gg.: spravochno-analiticheskii obzor*, p.92.)
Ⅱ - 7. The Characteristics of East Siberian Oil Fields

(1) Small/medium-sized deposits are geographically dispersed and vastly untapped.

(2) Huge size of capital investment is required:
   - estimated $102 billion by the Russian government as of summer 2007 (= approx. 1/3 of federal budget)

(3) Huge investment risks
   - due to severe climatic conditions; lack of socioeconomic infrastructure; technological difficulties, lack of transparent legal frameworks, etc.

(4) The result of Federal program of geological exploration in east Siberia (2005~08):
   →Achieved only 30% of planned increase in proven reserves.
      (Source: PravoTEK, March 20, 2009)

(5) The effect of preferential measures for levies on Russian domestic oil companies is still uncertain.
II-8. Energy “Cooperation” with China and Japan

- Vostok Energy (2006)  
  (Rosneft 51%; CNPC 49%)
- INK-Sever (2008)  
  (Rosneft 51%; JOGMEC 49%)
- INK-Zapad (2009)  
  (Rosneft 51%; JOGMEC 49%)

◆ Both Sino-Russian and Russo-Japanese Joint Ventures are engaged in only unprofitable upstream (exploration and development) projects in east Siberian upstream.  
  ⇒ access to small size of oil resources (i.e. the geological categories classified below unproven reserves)

◆ Downstream (oil refinery) projects are developing.

Federal law on “the process of executing foreign investment in economic entities having strategic significance for national defense and national security” (April 2008)  
⇒ Its future is uncertain…
II-9. Sino-Japanese Scramble Revisited

(1) For what did Beijing and Tokyo compete?
   → pipeline *per se* and/or oil?

(2) Was the competition motivated politically or economically?

(3) Is Russian oil really important for China and Japan?
II-10. Moscow’s Wishful Thinking

(1) Beijing and Tokyo would be in desperate for Russian oil.

(2) Russia can play one off against another between China and Japan:
    - to maximize the total volume of investments.
    → without knowing where to stop the game.

(3) Russia anticipated never-ending downward spiral of Sino-Japanese geopolitical rivalry.
    → aggravation of Sino-Japanese relations has bottomed out.
II-11. Moscow Scored an *Own Goal*

Global financial crisis and Russia’s oil & gas sector

The failure of Moscow’s geopolitical calculations

Despite its earlier virtual hesitance on the realization of the pipeline to China,

Moscow and Beijing inked an intergovernmental agreement for it in the aftermath of the global financial crisis in spring 2009:

(1) The spur pipeline to be completed by the end of 2010;

(2) From 2011, 15 mln tons/y of crude deliveries by pipe to China for 20 years;

(3) China’s $15 billion loans to Russia (Rosneft & Transneft)

Source: Russian Trading System stock exchange (oil & gas) in 2005-09
II-12. Paradigm Shift of the Game

(1) A scramble over the pipeline route is over.

(2) The biggest question now is how we can fill up the second phase of the pipeline.
   - Russia’s eastward energy advancement is irreversible.
   - More than about 60〜70 (%) % of oil will be shipped by sea to China anyway.
   - Japan’s oil demand is on the decline already.

(3) China and Japan are more careful about not to bear excessive burden of investment risks than before.
III. Eastern Gas Program

Can we learn from experiences with the ESPO project?
III-1. Eastern Gas Program

Source: Gazprom Homepage
III-2. Overview (1)

- Initial aggregate gas resources in Eastern Russia:
  - 52.4 tcm (trillion cubic meters) on shore
    - 7.3% explored
  - 14.9 tcm off shore
    - 6% explored (data from Gazprom)

III-3. Overview (2)

- Formation of 4 major Gas Centers are under contemplation
  - Sakhalin oblast;
  - the Sakha Republic (Yakutia);
  - Irkutsk oblast;
  - Krasnoyarsk krai

- Planned volumes of gas supplies:
  [Pipeline] To domestic markets: 27 bcm (2020), 32 bcm (2030)  
  To China and South Korea: 25-50 bcm after 2020

  [LNG] 21 bcm (2020), 28 bcm (2030)

- However, the program had no concrete picture with regard to specific pipeline routes even at the time of its official approval.
III-4. the Sakhalin Projects

Sakhalin 1

- Operator: Exxon
- Stakeholders:
  - Exxon 30%
  - SODECO (Japan) 30%
  - ONGC (India) 20%
  - Sakhalinmorfneftegaz & Rosneft (Russia) 20%
- Estimated recoverable reserves:
  - Gas: approx. 500 bcm
  - Oil: approx. 2.3 bln bbl
- Gas:
  - domestic supplies began (2005)
  - production comes on line in full swing (planned) in 2012
  → Gazprom will buy 20% for domestic supplies.
- Exxon v.s. Gazprom
  → Stakes to be sold to Gazprom?
  → Pipeline exports to China?

Sakhalin 2

- Operator: Sakhalin Energy
- Stakeholders:
  - Gazprom (50% + 1 stock)
  - Shell (27.5% - 1 stock)
  - Mitsui (12.5%)
  - Mitsubishi (10%)
- Estimated recoverable reserves:
  - Gas: approx. 500 bcm
  - Oil: approx. 1.1 bln bbl
- Gas:
  - LNG production came on line in March 2009.
  - Max. capacity: 9.6 mln tons / y
  - About 50% of the exports to Japanese markets.
III-5. Sino-Russian Gas Relations

- The buried Kovykta project
- The questionable Altai Pipeline plan
- Is the price really Russia’s primary concern?
  ⇒ Geopolitics or Market
- The “Ukraine Syndrome”
- The Korean Peninsula factor
- Central Asian factor
Conclusion

Can Russia consolidate its positioning in Northeast Asian energy security?
(1) Russia has a big opportunity and potential, if it is to de-
geopoliticize its energy strategy.
⇔ Russia’s geopolitical mind-set with paranoia against
China is the biggest bottleneck

(2) Diversification of huge investment risks would be a solution
to find a win-win scenario between the supplying and
consuming sides AND among the consuming nations.
⇒ Establishment of an international consortium (Russia,
China, Japan, ROK, the United States, etc.) is highly
recommended.

(3) Time is running out for Russia, not vice versa.
Thank You Very Much for Your Attention!

Comments and questions are highly appreciated!

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