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Russia’s Eastern Gas Program: Not Really Implementable Development Program, But Expression of Political Policy

• Program’s Goals Clearly Aimed at Handicapping “Independent” (Non-Gazprom) Asian Supply Options
  — Kovykta
  — Sakhalin

• Gas from These projects Their Gas Earmarked for Domestic Consumption, while More Expensive Options (Altay Route, Chayanda) Promoted

• Other Program Goals:
  — Maintain “single export channel”
  — Establish explicit link to European price netbacks with Altay Pipeline

With Most Goals Achieved, Eastern Gas Program Seems Likely to be Revised Significantly.
Altay Pipeline to China -- Increasingly Unlikely to be Built with Gazprom’s Takeover of Kovykta from TNK-BP
# Likely Parameters of Possible Pipelines and Estimated Gas Prices at Chinese Market Hub

<table>
<thead>
<tr>
<th>Starting Point</th>
<th>Capacity (billion cubic meters per year)</th>
<th>Length of New Pipeline (kilometers)</th>
<th>Distance to Major Chinese Market (kilometers)</th>
<th>Estimated Construction Cost (billion dollars)</th>
<th>Estimated Gas Price at Chinese Market Hub* (dollars per thousand cubic meters)</th>
</tr>
</thead>
<tbody>
<tr>
<td>West Siberia (Altay)-China</td>
<td>30</td>
<td>3,050</td>
<td>7,217</td>
<td>11</td>
<td>~400</td>
</tr>
<tr>
<td>Kovyktta</td>
<td>30</td>
<td>2,637</td>
<td>2,637</td>
<td>9</td>
<td>~300</td>
</tr>
<tr>
<td>Sakhalin</td>
<td>19</td>
<td>1,529</td>
<td>1,529</td>
<td>5</td>
<td>~310</td>
</tr>
<tr>
<td>Kazakhstan</td>
<td>30</td>
<td>2,475</td>
<td>6,642</td>
<td>9</td>
<td>~330</td>
</tr>
<tr>
<td>Turkmenistan</td>
<td>30</td>
<td>2,582</td>
<td>6,749</td>
<td>9</td>
<td>~240</td>
</tr>
</tbody>
</table>

Source: Cambridge Energy Research Associates.

*Price for Russian gas assumed to provide same netback in West Siberia as European exports of Russian gas. Price for Kazakh and Turkmen gas assumed to provide same netback as their exports to Russia at the national border.
Major Gas Fields and Gas Pipeline of Eastern Russia

Source: Cambridge Energy Research Associates. 60505-5
## Eurasia-China Pipeline Projects in Comparative Perspective: None Are Perfect

(selected indicators)

<table>
<thead>
<tr>
<th>Starting Point</th>
<th>Government Support</th>
<th>Readily Available Gas Reserves</th>
<th>Direct Route (Not Crossing Transit State)</th>
<th>Price in Chinese Market = or &lt; European Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>West Siberia (Altay)–China</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>Kovykta</td>
<td></td>
<td>✔</td>
<td>✔</td>
<td></td>
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<tr>
<td>Sakhalin</td>
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<td>✔</td>
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<tr>
<td>Kazakhstan</td>
<td></td>
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<td>✔</td>
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<tr>
<td>Turkmenistan</td>
<td></td>
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</tbody>
</table>

Source: Cambridge Energy Research Associates.
Estimated Delivered Costs for Natural Gas to Northern China by Pipeline from Eurasia

Source: Cambridge Energy Research Associates. 60505-28

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Kovytka Gas: Eastward to China or Westward to Proskokovo?

East Siberian Gas Export Option

Gazprom's Vision of Russia's Eastern Gas Development

Source: Cambridge Energy Research Associates.
Kovykta Pipeline Pros and Cons

+ 

• Single Largest Russian Gas Field Available for Pipeline to China in Near Term 
• One of Shorter FSU-China Routes Under Consideration 
• Kovykta Consortium May Neutralize Environmentalist Opposition by Following Route of Already-approved ESPO Oil Pipeline 

- 

• Opposition to Kovykta Export Program from Key Russian State Players, including Gazprom and Regional Government 
• Without Gazprom’s Participation in Consortium, Project May Remain Stalled, No Guarantee of Gazprom’s Support for Export Component Even as Consortium Member 
• Gazprom’s Insistence on Large-scale Helium Extraction Operation and Processing Facilities May Kill Project Economics
If you have any questions about this presentation or CERA in general, please feel free to contact

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