TANAP and South Stream Do Not Compete

• Despite being targeted at the same markets, South Stream and TANAP are not competing projects.
• South Stream is designed to divert the “old” contracted flows of Russian gas from existing routes through Ukraine to the new route across the Black Sea.
• Unlike South Stream, TANAP is designed to deliver additional volumes of gas from new sources (higher level of security of supply).

December 28, 2011
From Europe, Gazprom’s Plan May Look Like a Scary Pincer Movement

- TAG to operate in reverse mode
- Contracted flows to be diverted from Ukraine
- TANAP will deliver new gas
- Gazprom abandons W.Siberia-Ukraine lines
According to Gazprom, South Stream and Nord Stream “will reduce Ukraine’s importance for transit to zero”.

- Combined capacity of the two lines is equal to the Ukrainian transit of 2008.

Gazprom reports the minimum guaranteed contracted volume for the period from 2020 to 2025 at 158 bcma.

After the completion of South Stream, the combined capacity of European export pipelines of Gazprom is to reach 318 bcma.
Market Area of South Stream

Targeted Markets Are Getting Highly Competitive

September 28, 2012

Mikhail Korchemkin
• Current Russian exports to the market area of South Stream are slightly below the project’s design capacity of 63 bcm.
  – Note that Austria and Slovakia can receive Russian gas via Nord Stream.
• Russian gas is less competitive than gas from Azerbaijan and LNG.
### Italy: Capacity to Grow Faster Than Imports

<table>
<thead>
<tr>
<th>Category</th>
<th>bcma</th>
<th>2011 imports</th>
</tr>
</thead>
<tbody>
<tr>
<td>Existing pipelines – Transmed, Green Stream, TAG, Transitgas</td>
<td>101.8</td>
<td>69.6</td>
</tr>
<tr>
<td>Existing LNG terminals – La Spezia, Porto Levante</td>
<td>11.5</td>
<td></td>
</tr>
<tr>
<td><strong>Existing import capacity:</strong></td>
<td>113.3</td>
<td></td>
</tr>
<tr>
<td><strong>New pipelines – TAP, TGI, GALSI, South Stream</strong></td>
<td>73.5</td>
<td></td>
</tr>
<tr>
<td>New LNG terminals under construction – Livorno / Toscana, Brindisi, La Spezia</td>
<td>16.2</td>
<td></td>
</tr>
<tr>
<td>New LNG terminal projected</td>
<td>73.0</td>
<td></td>
</tr>
<tr>
<td><strong>Total 2030 capacity:</strong></td>
<td>&gt;175</td>
<td></td>
</tr>
<tr>
<td><strong>Italian 2030 import projections (1):</strong></td>
<td>70-94</td>
<td></td>
</tr>
</tbody>
</table>

(1) EU Energy Trends to 2030.
Can Italy Buy More Russian Gas?

- Current import capacity is 40% above the 2011 import volume.
  - Higher capacity-to-import ratio means higher competition.
- Vladimir Putin ordered Gazprom to keep the price up despite losing market share.
- Italy is unlikely to buy more Russian gas on the old terms.

Ankara, August 6, 2009
Yamal - South Stream - Europe

- Proved reserves – 10+ tcm
- Very high pipeline construction cost in Russia - € 12.4M per 1km for Bovanenkovo-Ukhta
- Total cost of pipelines ~ € 50 bn
- Very high transmission cost

Shah Deniz can get a higher netback and a better return on investment

Galkynys – Shah Deniz - Europe

- Proved reserves – 17+ tcm
- Closer to Europe
- Production + transmission costs lower than for Yamal
- Higher Reserves-to-Production ratio
Growth of Pipeline Assets of Gazprom

2005-2020: nearly TENFOLD increase of value at lower sales

- Transmission assets
- Production assets
- Gas sales

Reevaluation
Gazprom to Lose Its Competitive Capacity

- Export of gas produced in Russia is the most profitable operation of Gazprom now.
- Current profit margin allows a substantial price reduction.
- A sharp growth of transportation costs is expected.
  - Gazprom builds an extremely expensive new pipeline system to evacuate the Yamal gas.
  - The new expensive lines will be fully loaded while the existing ones will have growing spare capacity.
- In 2020, Gazprom needs a high price of above $14/MMBtu.
- Shah Deniz and Galkynys can beat Russian gas in Europe.

Cost of Exports, $/mcm

Note: Excluding re-exports of foreign gas.

September 28, 2012
“Legal uncertainties with regard to the unsettled sea border south of Bornholm” were not a problem for the Nord Stream pipeline.

There is no third party disputing the border along the route of the Trans-Caspian Gas Pipeline (TCGP).

Assuming a standard EIA procedure, TCGP is a bilateral matter of Azerbaijan and Turkmenistan.

There are offshore oil pipelines operating in the Caspian Sea for over 60 years.
• Trans-Caspian Pipeline may initiate TANAP-2.
• South Stream commissioning likely to open the Trans-Balkan pipeline for reverse flow.
• Caspian gas may flow to Ukraine.
Facilitating the Trans-Caspian Pipeline Talks

Vladivostok, September 11, 2012

• A “gas-light” chandelier may create a more friendly atmosphere
THANK YOU