Gazprom long-term positioning on internal and external markets

current and new production basins and related transportation infrastructure development

29th round of Informal Russia-EU consultations on EU Regulatory Topics &
22nd meeting of the EU-Russia Gas Advisory Council’s Work Stream on Internal Market Issues (WS2 GAC)

14 February 2017
Gazprom in Figures

**GAS RESERVES**
- Gazprom Group’s proven and probable gas reserves (PRMS) – 23.7 Tcm
- Gazprom Group’s А+B+C1 reserves (Russian classification) – 36.15 Tcm

**GAS PRODUCTION**
- Gazprom Group gas production – 418.5 bcm
- Number of active production wells – 7358
- Number of producing fields – 138

**GAS TRANSMISSION SYSTEM**
- Length of Gazprom's trunk pipelines – 171,200 km
- Aggregate active volume of 26 UGSF(1) in Russia – 73.6 bcm
- Available active volume of UGSF in Europe – 5.0 bcm
- Natural gas volume transported via GTS(2) in Russia – 602.6 bcm

**GAS PROCESSING**
- Volumes processed – 31.2 bcm
- Liquids volume processed – 67 mt

**LIQUIDS PRODUCTION**
- Gazprom Group liquid production – 59 mt
- Number of active oil producing wells – 8461

**ELECTRIC POWER AND HEAT GENERATION**
- Aggregate power generation capacity – 39 GW
- Aggregate heat generation capacity – 69 Tcal/h
- Total power produced – 148 bln kWh
- Total heat produced – 117 mln Gcal

**MARKETING**
- World’s largest gas exporting company
- European gas market share – 31%
- Russian power market share – 14%

**PERSONNEL**
- Number of employees – 462,400

(1) Underground gas storage facility
(2) Gas transmission system

Source: GAZPROM Annual Report 2015, Factbook «GAZPROM in Figures 2015»
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**Current and new production basins and related transportation infrastructure development**

- Gazprom’s reserves secure sustainable development and competitive ability in the near, medium and long term
- Optimization of geological exploration costs in order to increase efficiency

<table>
<thead>
<tr>
<th>Reserves</th>
<th>Gazprom Group</th>
<th>Supermajor Combined</th>
<th>Major Emerging Markets Combined</th>
</tr>
</thead>
<tbody>
<tr>
<td>X bboe 2014 total proved reserves of hydrocarbons</td>
<td>123 bboe (40 yrs)</td>
<td>99 bboe (14 yrs)</td>
<td>102 bboe (17 yrs)</td>
</tr>
<tr>
<td>Reserve life in years based on 2014 total proved reserves and 2014 production of hydrocarbons</td>
<td>17% Gazprom</td>
<td>72% Gazprom</td>
<td>4% Independent Producers</td>
</tr>
</tbody>
</table>

Sources: Bloomberg, Company’s data
Strategic tasks of Gazprom’s gas business

Exploration & Production

- New production regions development:
  - Yamal peninsula
  - Eastern Siberia & the Far East
  - Russian continental shelf

- Prioritize development of fields located close to existing UGSS infrastructure

Transportation & UGS

- Development and modernization of the UGSS
- GTS development in the new production regions and Eastern Russia
- Diversification of the export pipeline routes:
  - Western direction
  - Eastern direction
- Storage capacities buildup

Distribution & Marketing

- Retain current position in the Russian market
- Retain current position in the European market
- Diversify markets by entering into the most promising North-East Asian market
- Expand LNG business
- The development of new gas market niches (NGV fuel, bunkering)

Note: UGS is underground gas storage, UGSS is unified gas supply system
Total primary energy consumption and world gas demand

- Global primary energy demand is expected to grow over the next two decades at an average rate of 1.1% per year.
- Natural gas is expected to increase its share in world energy mix from 23% in 2015 to 25% in 2035 to the detriment of oil and coal.
- Global gas demand is expected to continue rising by an average rate of 1.6% per year until 2035.
- Asia-Pacific is projected to replace North America as the main gas consuming market by 2035.

**2015**
- Natural gas in world total primary energy consumption: 3.9 tcm
- Natural gas consumption by region:
  - Greater than 14 Gas Gtce: 23%
  - North America: 19%
  - OECD Europe: 21%
  - Latin America: 4%
  - Other Europe and Eurasia: 12%
  - Middle East: 13%
  - Africa: 5%

**2035 forecast**
- Natural gas in world total primary energy consumption: 5.2 tcm
- Natural gas consumption by region:
  - Greater than 18 Gas Gtce: 25%
  - North America: 13%
  - OECD Europe: 26%
  - Latin America: 5%
  - Other Europe and Eurasia: 15%
  - Middle East: 13%
  - Africa: 5%
  - Asia Oceania: 11%
Gas infrastructure development in the European part of Russia

- In the European part of Russia, Gazprom initiated two export gas pipeline projects: “Nord Stream 2” and “TurkStream”

- Indicated projects are executed in line with the strategy of export route diversification and aimed at mitigation of transit risks and increasing reliability of Russian gas supplies

### Transportation site

<table>
<thead>
<tr>
<th>Pipeline “Nord Stream 2”</th>
<th>Commencement of operation</th>
<th>Length, km</th>
<th>Capacity, bcm/year</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Dec. 2019</td>
<td>~1,200</td>
<td>27.5 x 2 (55)</td>
</tr>
<tr>
<td>Pipeline “TurkStream”</td>
<td>Oct. 10, 2016 Intergovernmen tal agreement signed</td>
<td>~910 (sea sector) ~180 (land sector)</td>
<td>15.75 x 2 (31.5)</td>
</tr>
</tbody>
</table>

### LNG plant

<table>
<thead>
<tr>
<th>LNG plant</th>
<th>Commencement of operation</th>
<th>Capacity, mmtpa</th>
</tr>
</thead>
<tbody>
<tr>
<td>Baltic LNG</td>
<td>2021</td>
<td>2 x 5</td>
</tr>
</tbody>
</table>

Current Russian natural gas export destinations

Prospective and ongoing Russian natural gas export projects

Prospective LNG projects
Gazprom – core areas for exploration in Russia

- Gas, bcm
- Oil, min tons
- Condensate, mln tons

- Total
  - 36,147.3
  - 2,082.0
  - 1,499.5

- Northwestern District
  - Framings of Astrakhan fold and Caspian depression
  - 2,985.3
  - 444.7
  - 8.0

- Volga District
  - 663.5
  - 200.2
  - 56.0

- Ural District
  - 21,613.5
  - 1,541.6
  - 695.2

- Siberian District
  - 7,426.2
  - 161.2
  - 63.2

- Krasnoyarsk and Irkutsk regions
  - 1,971.6
  - 205.0
  - 92.3

- Far Eastern District
  - Yamburg peninsula
  - 1,402.1
  - 58.4
  - 29.6

- Framings of Astrakhan fold and Caspian depression
  - 1,402.1
  - 58.4
  - 29.6

- Yamal peninsula
  - 85.1
  - 20.5
  - 5.6

- Continental shelf
  - Kara, Barents and Pechora seas’ shelf

- Gydan peninsula
  - 7,426.2
  - 161.2
  - 63.2

- Nadym-Pur-Taz region, North of Tazovsky peninsula, Ob and Taz gulfs
  - 1,971.6
  - 205.0
  - 92.3

- Shelf of Kamchatka
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- Sakhalin island

- Gazprom long-term positioning on internal and external markets current and new production basins and related transportation infrastructure development
Gazprom – new upstream projects in Russia

Prospective Sources of Gazprom’s Gas Production, BCM

Gazprom’s key greenfields gas projects

<table>
<thead>
<tr>
<th>Project</th>
<th>Commissioning and attainment of projected capacity</th>
<th>Plateau production, bcm/ year</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kharasaveiskoye (cenoman-apt)</td>
<td>2021 – 2025</td>
<td>32</td>
</tr>
<tr>
<td>Kharasaveiskoye (neocomian-jurassic)</td>
<td>2024 – 2027</td>
<td>18</td>
</tr>
<tr>
<td>Bovanenkovskoye (neocomian-jurassic)</td>
<td>2023 – 2027</td>
<td>25</td>
</tr>
<tr>
<td>Kruzenshternovskoe</td>
<td>2025 – 2029</td>
<td>33</td>
</tr>
<tr>
<td>Kamennomysskoye-sea</td>
<td>2023 – 2027</td>
<td>15</td>
</tr>
<tr>
<td>Severo-Kamennomysskoye</td>
<td>2025 – 2032</td>
<td>15</td>
</tr>
<tr>
<td>Yuzhno-Kirinskoye</td>
<td>2021 – 2034</td>
<td>21</td>
</tr>
<tr>
<td>Chayandinskoye</td>
<td>2018 – 2024</td>
<td>25</td>
</tr>
<tr>
<td>Kovyktinskoye (incl. Chikanskoye field)</td>
<td>2022 – 2026</td>
<td>35</td>
</tr>
</tbody>
</table>

Source: Factbook «GAZPROM in Figures 2015»

Gazprom long-term positioning on internal and external markets current and new production basins and related transportation infrastructure development
Gazprom – Yamal upstream development

Yamal megaproject:
- Number of fields: 32
- Total reserves & resources of all Yamal Peninsula fields:
  - 26.5 tcm
  - 1.6 b tons of gas condensate
  - 300 m tons of oil

Production in Yamal:
- Nowadays concentrated in Bovanenkovskoye.
- Prospects: up to 360 bcm/a.
Gazprom's main resource base is shifting northward to Yamal.

Due to the shift of Gazprom's resource base to the North, the appropriate extensions need to be done in the Northern corridor.
Essential decline of indigenous production is expected in North-West Europe which predetermines movement of export routes from central to northern direction.
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Two routes comparison

<table>
<thead>
<tr>
<th>Route Description</th>
<th>Distance (km)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yamal – Germany</td>
<td></td>
</tr>
<tr>
<td>Yamal – Greifswald:</td>
<td>4166</td>
</tr>
<tr>
<td>Yamal – Ust-Luga (in RF)</td>
<td>2977</td>
</tr>
<tr>
<td>Ust-Luga – Greifswald</td>
<td>1189</td>
</tr>
<tr>
<td>Yamal – NPTR – Waidhaus:</td>
<td>6051</td>
</tr>
<tr>
<td>Yamal – Sudzha (in RF)</td>
<td>3987</td>
</tr>
<tr>
<td>Sudzha – Waidhaus</td>
<td>2064</td>
</tr>
</tbody>
</table>

Pipeline length via Nord Stream 2 is 1885 km shorter than via Ukraine system.
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Thank you for your attention!