GAS EXPORT AND ENHANCING RELIABILITY OF GAS SUPPLY TO EUROPE

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Volume and average price* data of Gazprom Group gas beyond former Soviet Union (FSU)**

Net revenue* from gas sales beyond FSU

* Inclusive of (excise tax and) customs duties

** Gas supplies, including LNG and auctioned gas, to foreign countries, except for FSU, under contracts of Gazprom Export and other Gazprom companies
GAZPROM GROUP’S GAS SALES BEYOND FSU
(UNDER CONTRACTS OF GAZPROM EXPORT AND GAZPROM SCHWEIZ)

- Total sales in 2016 amounted to 179.3 bln m$^3$.
- Increase of 19.9 billion m$^3$ (+12.5%) from previous year.
- Major gas buyers in 2016 were Germany, Turkey, and Italy.
Gazprom’s gas sales in FSU totaled 33.2 bln m³* in 2016.
PIVOTAL ROLE OF GAZPROM GROUP’S GAS IN EUROPEAN MARKET

Gazprom Group’s* share in European gas consumption

Gazprom Group’s* share in European gas imports**

Gas supplies to Europe by major gas exporters and producers in 2016, bln m³

Short-term forecasts for gas consumption from world’s leading companies (consumption in 2012 = 100%)

* Gas sales to European countries beyond FSU under contracts of Gazprom Export and GAZPROM Schweiz
** Difference between consumption and indigenous production

Actual 2012-16
CERA (March 2017)
PIRA (Sept. 2016)
PIRA (March 2017)
IEA (May 2015)
IEA (May 2016)
LOW COMMERCIAL ATTRACTIVENESS OF U.S. LNG SUPPLIES TO EUROPE

In current environment, forward contract prices at European trading platforms do not cover full cost of future U.S. LNG supplies linked to Henry Hub prices.

Estimated price range* for U.S. LNG supplies in Europe versus forward prices** in European gas market

* Based on Henry Hub forward prices, \( P = HH \times 115\% + X \), where \( X \) – costs (liquefaction, shipments, regasification)
** NBP forward prices
*** Historical data: Russian gas prices, including delivery, at German border (according to World Bank), projected data: based on current forward prices of Brent and TTF

Sources: Bloomberg, Cheniere Energy, WoodMackenzie, World Bank
Power industry shows highest growth rates in gas consumption across Europe. Even EC’s most radical ecology-oriented scenario, with highest subsidies for RES, envisages increased gas use for power generation. According to baseline scenario, by 2025 gas-fired power generation in EU will grow by one-third versus 2015.

* 21% increase in energy efficiency by 2030, 33% reduction of greenhouse gas emissions by 2030 versus 1990, 24.4% share of RES in primary energy consumption by 2030.

* 27% increase in energy efficiency by 2030, 40% reduction of greenhouse gas emissions by 2030 versus 1990, 27% share of RES in primary energy consumption by 2030.

Source: European Commission, ENTSO-E
Prospects for gas demand increase in transportation sector:

- Heavy-duty truck can consume up to 200–300 kg of LNG daily
- Transportation company with 20–40 trucks consumes several mln m³ of gas per year
- Europe’s demand for natural gas as vehicle fuel can reach up to 27 billion m³ by 2025*

* ACER (Agency for the Cooperation of Energy Regulators) forecast.
2016: development of Europe’s underground gas storage network

During 2016/2017 withdrawal season, Gazprom operated 5 bln m³ of storage capacities in Europe.

Maximum daily deliverability of UGS facilities in Western Europe was 83.3 mln m³ during 2016/2017 withdrawal season.

Katharina and Damborice UGS projects are in progress:

- Katharina UGS facility has 6 operational caverns with total working capacity of 315 mln m³ and maximum daily deliverability of 23.2 mln m³. On April 1, 2017, UGS surface facilities were brought onstream.
- On July 1, 2016, Damborice UGS facility with design working capacity of 456 million m³ was put into operation in Czech Republic. At present, Gazprom has access to 156 mln m³ of Damborice’s storage capacity, with maximum daily deliverability standing at 3.7 mln m³.
NORD STREAM 2

- Nord Stream 2 project envisages construction of gas pipeline across Baltic Sea with entry point in Kingisepp District of Leningrad Region and exit point near Greifswald in Germany

- Length of gas pipeline: around 1,200 km

- Annual capacity: 55 bln m$^3$ of gas

- In addition to higher reliability of supplies, Nord Stream 2 project is consistent with EU objectives for energy security and harmful emissions reduction

- Nord Stream 2 AG project company was set up to deliver project

- Nord Stream 2 AG signed financing agreements with ENGIE, OMV, Royal Dutch Shell, Uniper, and Wintershall for Nord Stream 2 gas pipeline project
• TurkStream is project for transit-free export gas pipeline stretching across Black Sea from Russia to Turkey and further to Turkey’s border with neighboring countries

• First string (15.75 bln m³ in capacity) of gas pipeline is intended for Turkish consumers, while second string (with same capacity) will deliver gas to EU countries

• On October 10, 2016, Russian and Turkish Governments signed Agreement on TurkStream project

• South Stream Transport B.V., wholly-owned subsidiary of Gazprom, is responsible for construction of gas pipeline’s offshore section

• On May 7, 2017, pipe-laying of TurkStream gas pipeline started near Russian coast (Audacia vessel owned by Allseas)

• Pioneering Spirit, world’s largest pipe-laying vessel, has arrived in port of Anapa to build TurkStream pipeline in deep-water area of Black Sea

• TurkStream is expected to come onstream before late 2019
THANK YOU FOR YOUR ATTENTION!