

## **FACT SHEET**

December 2013

# **Transporting Russian Natural Gas to Western Europe –** From Source to Market

Overview of the pipelines connecting to Nord Stream



		Owner of the pipeline	Operator
1 2 3 4 5	Bovanenkovo-Ukhta pipeline SRTO-Torzhok pipeline Brotherhood pipeline Pochinki-Gryazovets pipeline Gryazovets-Vyborg pipeline	Gazprom	Gazprom
6	Nord Stream Pipeline	Nord Stream AG shareholders: OAO Gazprom (51%), Wintershall Holding GmbH (15.5%), E.ON SE (15.5%), N.V. Nederlandse Gasunie (9%), GDF SUEZ (9%)	Nord Stream AG
7	OPAL pipeline	W & G Beteiligungs-GmbH & Co. KG (80%), Lubmin-Brandov Gastransport GmbH (20%)	OPAL Gastransport GmbH & Co. KG, Lubmin-Brandov Gastransport GmbH
8	NEL pipeline	NEL Gastransport GmbH (51%), Gasunie Ostseeanbindungsleitung GmbH (25%), Fluxys Deutschland GmbH (24%)	NEL Gastransport GmbH, Gasunie Ostseeanbindun gsleitung GmbH, Fluxys Deutschland GmbH



#### Gas production sources

- Russia is one of the countries with the largest gas reserves in the world. With 32,900 bcm. Russia has 17.6% of the world's currently known natural gas reserves. This is equal to around 56 years of Russian gas production at 2012 levels or around 74 years of EU gas demand at 2012 levels. The International Energy Agency (IEA) estimates the ultimately recoverable gas resources<sup>2</sup> in Russia to be three times as high – 127,000 bcm, of which 21,000 bcm have already been produced.
- Most of these resources<sup>3</sup> and with them the largest Gazprom fields, either producing (Urengoy, Yamburg, Zapolyarnoe) or under active development (Yamal peninsula) are located in Western Siberia.4 They are the basis of Gazprom's westbound gas exports. Currently, Gazprom has a replacement ratio over 100 percent - meaning that more gas reserves are newly discovered than depleted.
- One of the resource bases for the Nord Stream Pipeline, the Yuzhno-Russkoye gas field, has reached its projected capacity of 25 bcm per year in 2009. It is planned to expand this field in the future to include gas from the Turonian deposits. The first well for this purpose has been constructed in May 2011.
- The Zapolyarnoye gas field is expected to reach its projected annual capacity of 130 bcm in 2013-2014.
- The Bovanenkovskove gas field has been commissioned in 2012 and will reach its projected capacity of 115 bcm in 2019-2021.

#### Connecting pipelines in Russia

- Several onshore pipelines in Russia transport natural gas from the Western Siberian fields towards the starting point of the Nord Stream Pipeline on the Baltic Sea coast.
- The pipelines are integrated in the Unified Gas Supply System (UGSS) of Russia. With 168,300 kilometres of gas pipelines, 222 compressor stations and 25 underground gas storage facilities, the UGSS is the world's largest gas transmission system. It is 100% owned by Gazprom.<sup>7</sup>
- From the Urengoy field, gas is transported via two pipelines: the SRTO-Torzhok pipeline, with a length of 2,200 kilometres and a capacity between 20.5 and 28.5 bcm of gas per year<sup>8</sup>, and the Brotherhood pipeline, with a capacity of over 100 bcm.<sup>9</sup>
- From the Bovanenkovskoye field, gas will be transported via the Bovanenkovo-Ukhta and Ukhta-Torzhok pipelines, with a length of 2,400 kilometres and a capacity of some 81.5 to 140 bcm.
- In 2011-2012, the Gryazovets-Vyborg gas pipeline was constructed to connect the Russian gas transmission system with the Nord Stream Pipeline. Its route stretches from the city of Gryazovets, north-east from Moscow, to the city of Vyborg on the Baltic Sea coast where the Nord Stream Pipeline begins. It has a length of 917 kilometres and a capacity of 55 bcm, identical to Nord Stream. The Gryazovets-Vyborg pipeline transports the gas until the 366 MW Gazprom-operated compressor station in Portovaya where natural gas is prepared for transport.

BP. June 2013. Statistical Review of World Energy. p.20.

<sup>&</sup>lt;sup>2</sup> The ultimately recoverable resources are an estimate of the total amount of gas that will ever be recovered and produced.

<sup>&</sup>lt;sup>3</sup> RPI, Russian Gas Export on European Markets. October 2012. p.29 <sup>4</sup> IEA, World Energy Outlook 2011, p.303

<sup>&</sup>lt;sup>5</sup> Gazprom in Figures, 2007-2011: Factbook.

<sup>&</sup>lt;sup>6</sup> Gazprom in Figures, 2008-2012: Factbook, p. 21.

<sup>&</sup>lt;sup>8</sup> Gazprom, SRTO-Torzhok. Accessed: February 2013.

Gazprom Export, <u>Transportation</u>. Accessed: February 2013.
 Gazprom, <u>Bovanenkovo – Ukhta and Ukhta – Torzhok</u>. Accessed: February 2013.



#### **Nord Stream**

 The natural gas is transported from Russia to Western Europe via the Nord Stream Pipeline. The offshore pipeline runs from the Russian coast (Compressor Station Portovaya near Vyborg) to Lubmin on the German coast. The two parallel lines laid on the Baltic seabed have a total annual capacity of 55 bcm and a length of 1,224 kilometres.

### Connecting pipelines in Germany

- Two connecting pipelines serve as a link to the European gas transmission system:
   OPAL and NEL.
- OPAL is the acronym for the German name "Ostsee-Pipeline-Anbindungsleitung" ("Baltic Sea Pipeline Link"). The OPAL pipeline is 470 kilometres long and has an annual capacity of 36 bcm. It runs south from Lubmin as far as Brandov in the Czech Republic, where it connects to the Gazelle pipeline.
- NEL is the acronym for the German name "Nordeuropäische Erdgas-Leitung" ("North-European Gas Pipeline"). The NEL pipeline is 440 kilometres long and has a capacity of more than 20 bcm. It runs in an east-western direction across the north of Germany from Lubmin to Rehden (southwest of Bremen) and connects the Nord Stream Pipeline with existing gas transportation system near Rehden, where the largest natural gas storage facility in western Europe is located.

For more information please visit www.nord-stream.com.

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