

Gazprom's underground gas storages: the European focus

Alexander Medvedev, OAO Gazprom

Vladimir Khandokhin, Gazprom export LLC

In addition to the need to regulate uneven demand, we must also remember the technical difficulties encountered in gas transportation to final consumers.

Some of our oil & gas fields are located more than 5,000 km away from buyers. Moreover, as you can see on this slide, blue fuel is supplied to Europe through several directions with the use of complex branched network of large and small pipelines.

In addition, we are constantly increasing and developing the transport infrastructure. In November 2011, the first line of the Nord Stream gas pipeline was commissioned. This line enables us to significantly diversify the logistics of natural gas deliveries from Russia to Europe and eliminate certain political risks involved in gas transit, and thereby increase the security of supply to final consumers. It should be noted that the Nord Stream project – which is extremely difficult to implement – is the most modern and sophisticated project from the environmental and technical perspectives.

I can tell you that over decades of work, we have gained invaluable experience and know very well through which means to ensure an uninterrupted natural gas flow to households and industrial consumers in Europe.

Given the decline in Europe's own gas production and at the same time increased use of gas as a primary source of energy and a cleaner fuel, we plan to further increase exports to meet the steadily rising demand.

Along with increasing gas exports, we plan to further develop instruments that ensure reliability and flexibility of gas supplies to consumers. We need to react quickly to changes in supply volumes during periods of cold weather, as well as during maintenance or repair work on the multi-kilometer gas transportation system. Additionally, the possibility of any force majeure occurring must be taken into account.

Developing an underground gas storage system in the target gas market near our export routes is the clearest and most stable solution to this problem for Gazprom Group. UGS is that strategic reserve, which enables us to guarantee both stability and flexibility in Russian gas supply.

We have already made considerable progress in this area. Over recent years, Gazprom was able to become a major and prominent player in Europe's underground gas storage market. On this slide, you can see the geographical distribution of Gazprom Group's underground gas storage capacities outside the Russian Federation.

Implemented UGS projects in Europe

We already have UGS facilities in Germany, UK, Serbia and Austria. The year 2011 was a very productive one for our company in this area. During that year, we commissioned Banatski Dvor UGS, Katharina UGS and the second phase of Haidach UGS.

Gazprom implemented UGS in Europe



I would like to begin, of course, with the Haidach Underground Storage Facility, which, in 2005, became our pilot investment project in Europe.

This storage facility is connected to the gas transportation systems of Austria and Germany and is designed to ensure reliability of gas export supplies to Baumgarten station for consumers in Austria, Germany, Italy, Hungary, Slovenia and Slovakia. All construction work was completed in early 2011, and Phase II of the Haidach UGS facility was commissioned in April 1, 2011. Moreover, Gazprom's storage capacity in this gas storage facility was 1.9 billion cubic meters of active volume and had withdrawal capacity of almost 19 million cubic meters per day. Gazprom's investment share in the project is 33.3%.

We are considering several projects in Germany. Among them, I would first like to talk about the Katharina UGS, which we are developing together with VNG on a parity basis. It was only in May 2011 that we took the final investment decision to construct this underground gas storage facility, and by October 1, we had already put the first capacity of the facility into commercial operation.

Katharina UGS will have an active volume of 629 million cubic meters of gas and a maximum daily capacity of 13 million cubic meters. This storage facility will ensure a reliable gas supply to Mallnow and Waidhaus stations in Western Europe, as well as through the JAGAL and OPAL gas pipelines for consumers in Germany, France and the Czech Republic.

We have capacities in the Reden Underground Gas Storage Facility also located in Germany. I assume this project does not require a detailed introduction as it has been successfully and effectively operating in the market for many years.

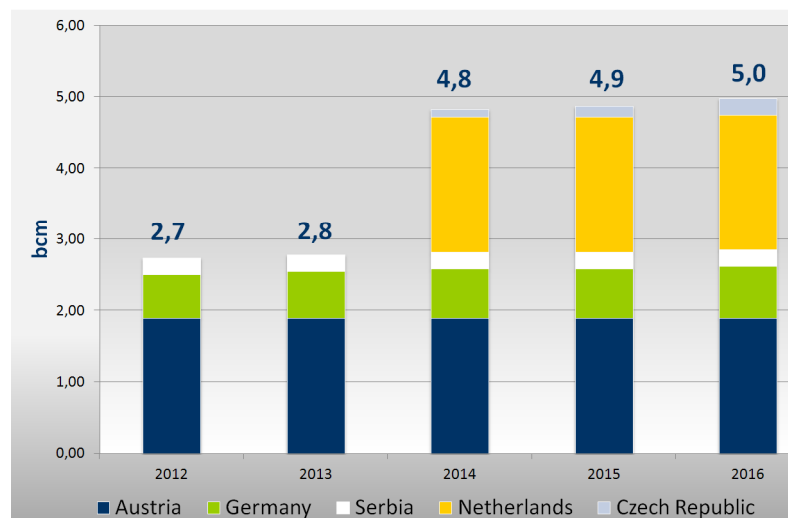
In Eastern Europe, we are implementing the Banatski Dvor project in Serbia. This underground storage facility will ensure reliability of Russian gas export deliveries to Hungary, Serbia, Bosnia and Herzegovina.

We are implementing this project in partnership with Srbijagas. The project envisages bringing the active volume to 450 million cubic meters with withdrawal capacity of 5 million cubic meters

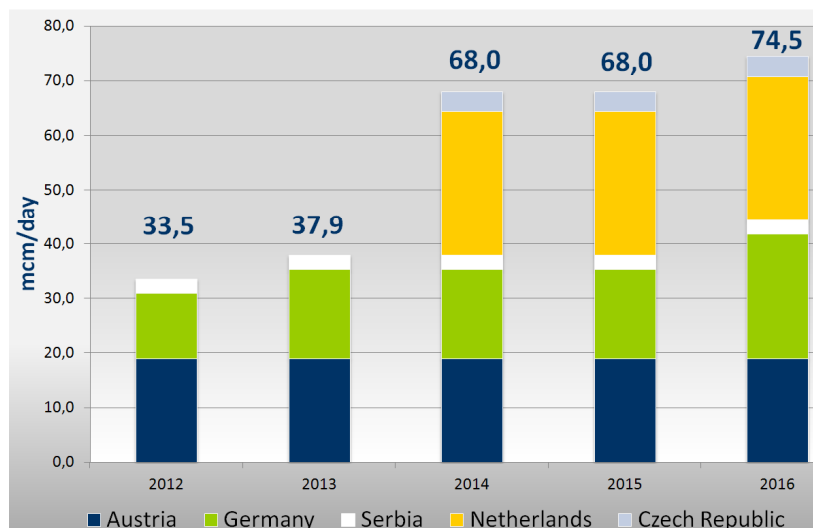
Banatski Dvor Underground Gas Storage Facility with a total active volume of 450 million cubic meters was put into commercial operation in October 2011. We are also considering the possibility of further increasing the active volume in this UGS.

After commissioning the above-mentioned UGS facilities, capacities aimed at maintaining a stable and uninterrupted gas supply to European customers by Gazprom Group exceeded 3 billion cubic meters. Seeing the strong positive results of the use of UGS in 2011, the Management Committee of Gazprom decided to further increase the storage capacities abroad to achieve an active capacity of at least 5% of annual export deliveries.

Plan for development of Gazprom active volume in Europe



Plan for development of Gazprom daily withdrawal capacity



We also perfectly understand that in order to ensure full security of supply, we should have not only sufficient reserves of active gas in underground storage facilities in Europe, but also, it is equally important to increase daily withdrawal capacity.

Therefore, when considering and selecting potential projects, we pay special attention to the technical storage capabilities for daily gas withdrawal. It is also worth noting that our portfolio consists of not only seasonal storage capacities in underground storage facilities,

constructed in aquifers and depleted oil fields, but also projects at salt caverns, despite the fact that these projects are significantly more expensive from an investment perspective.

According to our forecasts, by 2016 we will have a maximum withdrawal capacity of about 75 million cubic meters per day, which will significantly enhance our export flexibility. Thus, if in 2010 we needed 86 days to withdraw the entire active gas, then we plan to improve this figure to 68 days by 2016.

UGS in implementation phase

Now I would like to pay attention to our projects not yet commissioned, but being in active implementation stage.

Let me begin with the Bergermeer UGS in the Netherlands. We are implementing this project in partnership with TAQA and the Netherlands state-owned company EBN.

After putting Bergermeer UGS into commercial operation, Gazprom Group will be able to significantly enhance supply security in the gas market of northwestern Europe.

With significant reserves of active gas at the Bergermeer UGS, this project will ensure security of our exports to Western Europe through the Nord Stream gas pipeline. In addition, it ensures a stable, secure and optimal uniform mode of operation of this gas pipeline under changes in the volume of gas withdrawals by customers, which is very important from a technical perspective.

Having said so, we must not forget about further strengthening the energy security of Eastern Europe too.

We are currently considering the possibility of building the Damborice Underground Gas Storage Facility in the Czech Republic on the base of a depleted oil field in conjunction with our partner company MND.

The project will enable Gazprom to increase reliability of export deliveries to the Czech Republic, Germany and France, and it will also contribute to the stability of gas supplies through the Nord Stream, OPAL and JAGAL gas pipelines.

There is a plan under the project to construct an underground gas storage facility with an active capacity of more than 450 million cubic meters. Commissioning of the project is planned for 2014, and target figures will be reached by 2019.

In addition to active build-up of own gas storage capacities in Europe to maintain stability not only for the future, but also for current exports, we are additionally renting a storage capacity in existing underground gas storage facilities owned by our partners in the UK and Germany. Moreover, a number of capacities are leased directly to Gazprom to ensure security of wholesale export deliveries, and part of the capacities has been contracted through our subsidiary Gazprom Marketing & Trading to ensure uninterrupted gas supply to final consumers.

Potential projects

As you can see from the presentation, we will continue to increase storage capacities in European countries. For this purpose, we are conducting a feasibility assessment of the possibility for us to participate in joint projects on underground gas storage facilities in France, Romania, Hungary, UK, Slovakia, Turkey, Czech Republic and other countries. New UGS facilities are meant to ensure the safety of our exports deliveries not only through existing transport routes including the Nord Stream, but also through new gas pipelines, such as the South Stream.

Cooperation with the European regulating authorities

In concluding my presentation, I would like to separately address the question of Gazprom's interaction with European regulators in the implementation of underground gas storage projects in Europe.

Gazprom is interested in possessing storage capacities in European underground gas storage facilities solely to meet its long-term commitment to its European partners under our

export contracts and to ensure timely and full gas deliveries to European consumers. We do not consider the possibility of investing in underground gas storage facilities in order to generate additional income from trading in storage capacities.

In this regard, Gazprom participates in implementation of new UGS projects only when there is the possibility of using such facilities for its own needs to ensure safe and secure export deliveries, significantly strengthening the energy security of European countries. Therefore, we hope that European regulators will take into account the nature and the purpose of Gazprom's ownership of storage facilities.

Moreover, I would like to stress once again that in developing its underground gas storage facilities, Gazprom operates strictly under the requirements of European regulatory authorities on ensuring nondiscriminatory access to underground storage capacities. Gazprom annually offers Haidach UGS capacity for sale in accordance with existing regulations.

Conclusions

In summary, I would like to note once again that the stability and security of gas supplies to European customers is without a doubt a key factor for the Gazprom Group as the largest supplier of "blue fuel" in the European market.

Therefore, I am very glad that I have had the opportunity today to speak on this subject, which I personally think is one of the most important components of global energy security.