In Lithuania, natural gas is transported via gas transmission and distribution systems.

The Law on Natural Gas stipulates that gas transmission, distribution and supply activities are subject to licensing. The licences are issued and the supervision of the licensed activities is executed by the National Commission for Energy Control and Prices (NCC). On 10 April 2015, NCC issued a statement that AB Amber Grid's gas transmission business ownership unbundling model was broadly consistent with applicable provisions of the EU Third Energy Package and the Republic of Lithuania Law Natural Gas. AB Amber Grid was issued with an open-ended gas transmission business license and was designated as the Transmission System Operator.

AB Amber Grid has a licence to engage in the natural gas transmission activities in all the administrative units of Lithuania.

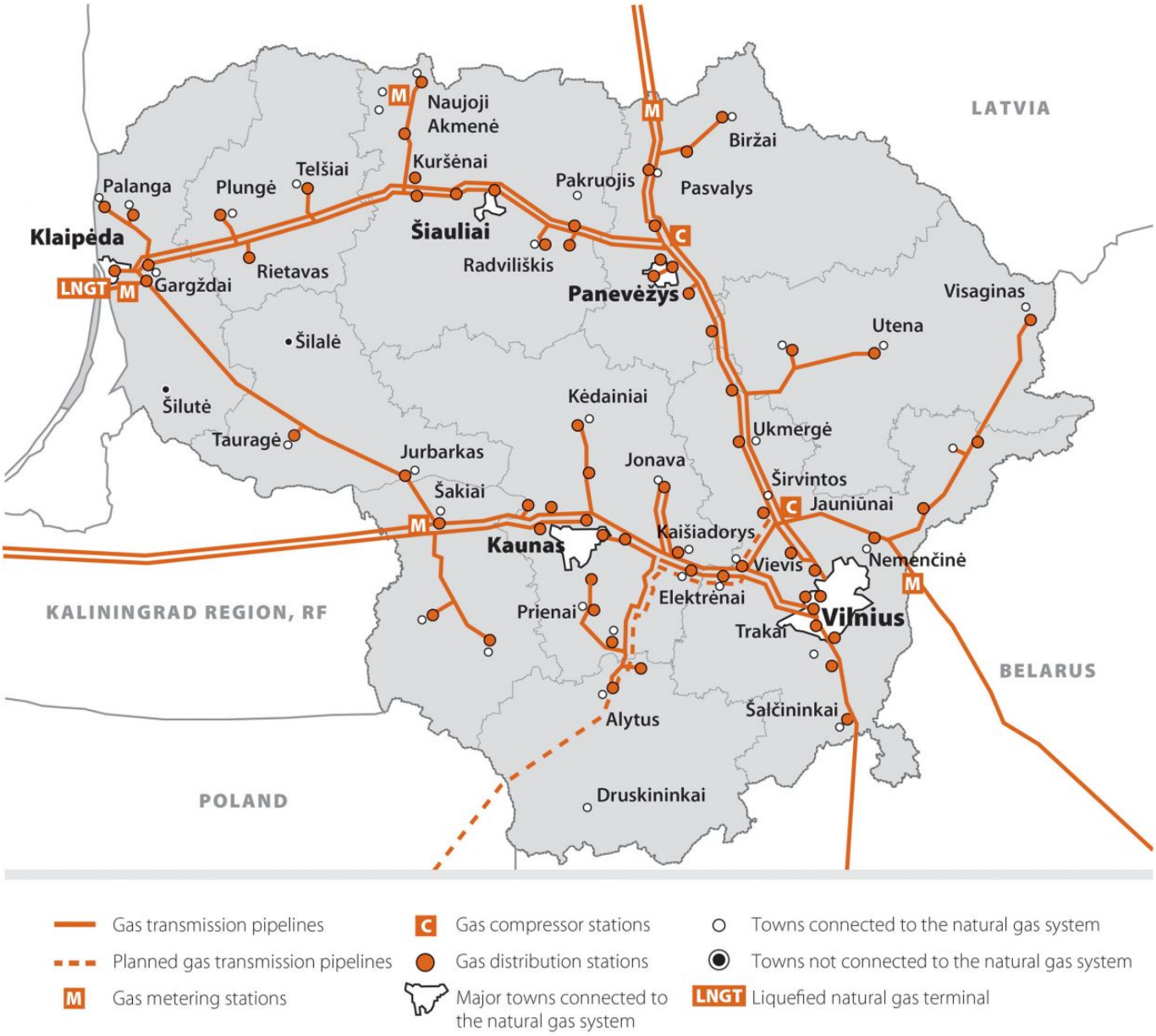
The transmission system, operated by AB Amber Grid is interconnected with the natural gas transmission systems of the Republic of Latvia, Republic of Belarus, Kaliningrad Region of Russian Federation, Klaipeda Liquefied Natural Gas Terminal and distribution systems, operated by the distribution system operators within Lithuania:

Natural gas transmission systems belonging to:

- OAO Gazprom
- OOO Gazprom Transgaz Belarus
- AS Conexus Baltic Grid

Natural gas distribution systems belonging to:

- AB Energijos skirstymo operatorius
- AB Agrofirma Josvainiai
- AB Achema
- UAB Intergas
- UAB Fortum Heat Lietuva



NATURAL GAS TRANSMISSION SYSTEM

Transmission of natural gas (hereinafter referred to as “transmission”) is transportation of natural gas via gas transmission system mostly comprised of high-pressure pipelines, except for the production process pipeline network and part of the high-pressure gas pipelines mainly used for the local distribution of natural gas, designed for the delivery of natural gas to consumers, except for gas supply.

AB Amber Grid, as the operator of Lithuania’s natural gas transmission system, is in charge of the safe operation, maintenance and development of the transmission system. The transmission system is comprised of gas transmission pipelines, gas compressor stations, gas metering and distribution stations, cathodic protection systems installed to prevent corrosion of the pipeline, remote data transmission and telecommunication systems.

Basic elements of the transmission system:

Gas transmission pipelines	Gas distribution stations	Gas metering stations	Gas compressor stations
2,113 km	65 stations	3 stations	2 stations

GAS TRANSMISSION PIPELINES

The pipelines that have been in operation for the longest time were constructed back in 1961. The largest pipeline diameter is 1,220 mm. The design pressure of the largest part of the gas transmission system is 54 bar.

Lithuania's natural gas transmission system is interconnected with the natural gas transmission systems of Belarus, Latvia and Russia. The largest volumes of natural gas are imported via the gas transmission pipeline from Belarus and are transported to customers of Lithuania and in transit to customers of the Kaliningrad Region, Russian Federation. Gas transportation via the Lithuania Latvia cross-border gas interconnector is bi-directional.

The Panevezys Gas Compressor Station

The Panevezys Gas Compressor Station (GCS) was equipped back in 1974. The Panevezys GCS is designed for the transportation of natural gas in the following directions:

- In the western direction – to Klaipeda;
- In the southern direction – to Vilnius;
- To the northern direction – to Riga.

Since the Panevezys GCS is a reverse flow station, the direction of the gas flow may be changed. The GCS isprimarily used to raise the gas pressure in to the gas transmission pipeline to Klaipeda.

The Panevezys GCS has 7 reciprocating compressors with total capacity of 7.7 MW.

The Jauniunai Gas Compressor Station

The Jauniunai Gas Compressor Station (GCS), the second GCS in the territory of Lithuania, was constructed in 2010. The capacities of Panevezys GCS (run by AB Amber Grid) were no longer sufficient to meet the growing demand for natural gas of customers of Lithuania and the neighboring countries.

The project for the construction of the Jauniunai GCS was an integral part of the Lithuanian National Energy Strategy plans approved back in 2007. The purpose of the GCS is to ensure adequate natural gas supplies to customers of Lithuania following the decommissioning of the Ignalina Nuclear Power Plant, to cater for the growing demand of natural gas transit and to secure capacities for the prospective infrastructure projects and gas pipeline interconnectors. The overall objective is to secure safety and reliability of natural gas supplies. The site for the new GCS was selected in the Jauniunai Seniunija as the only suitable site in the vicinity of the Minsk-Vilnius Gas Transmission Pipeline (Ø1,200) and the two lines of the Vilnius-Panevezys-Riga Gas Transmission Pipeline (Ø700 and Ø500).

At the Jauniunai GCS, natural gas is compressed and the gas pressure in the gas transmission line is raised to 54 bar, which results in the enhancement of the throughput capacity of the gas transmission system which enables transportation of higher volumes of natural gas. The GCS has 3 gas turbines and 3 centrifugal gas compressors. The capacity of the GCS is 34.5 MW.

The Kiemenai Gas Metering Station

The Kiemenai Gas Metering Station (GMS) was constructed in 2005. It is aimed at enhancing the reliability of natural gas supplies. The Kiemenai GMS is instrumental in ensuring the possibility of using the Incukalns (Latvia) Underground Gas Storage Facility which belongs to Latvijas Gaze A/S. The Kiemenai GMS is bi-directional, i.e. it meters gas supplied in both directions (the Lithuania – Latvia and the Latvia – Lithuania directions). The Kiemenai GMS is equipped with an automatic operating mode, it has remote control and parameter monitoring systems, so that it can

be controlled and monitored from the Company's Central Control Room. The Kiemenai GMS is equipped with a flow chromatograph for analysis of the quality and composition of gas supplies. Gas supply capacities of the cross-border gas interconnection: in the Lithuania-Latvia direction – 270,000 nm^3/h and in the Latvia-Lithuania direction – 260,000 nm^3/h.

The Sakiai Gas Metering Station

When demand for gas transit to Kaliningrad increased, in 2009, the Sakiai Gas Metering Station (GMS) was reconstructed (it was constructed back in 1994). The capacity of the GMS was increased up to 480,000 nm^3/h. During the reconstruction, a second gas flow chromatograph was installed alongside with the already existing one. Gas samples are taken to the gas flow chromatographs from all the measuring lines. The switching of the gas metering lines at the GMS has 3 operating modes: (1) automatic (depending on the actual gas flow debit), (2) via the remote control system SCADA and (3) manual.

MAINTENANCE OF THE GAS TRANSMISSION SYSTEM

With a view to ensuring the reliability, efficiency and safety of the gas transmission system operation, the scheduled repair and maintenance works are implemented on an ongoing basis. The gas transmission pipeline engineering design, construction as well as operation and maintenance works are performed according to detailed rules and regulations. Depending on the operational factors, technological layout, results of the regular maintenance operations, additional attention is being paid to the most risky gas transmission pipelines. Gas pipeline intelligent pigging (internal diagnostics) works are carried out periodically. As of today, 1,206 km of gas transmission pipelines are fully adapted for the intelligent pigging operations. By 2018, approx. 71% of the gas transmission pipelines are planned to be adapted for the intelligent pigging operations.

Out of the total 67 gas distribution stations, 15 ones are newly constructed, 46 stations are older ones but have been substantially modernized, 2 stations are planned to be demolised and the rest will be reconstructed during 2018–2022.

For details on the gas transmission system capacities click on the following link.