

Speech of Dimitrios Mezartasoglou at Workshop (LNG)

The SE European region as defined by IENE comprises a group of 13 countries (i.e. Albania, Bosnia & Herzegovina, Bulgaria, Croatia, Cyprus, FYR of Macedonia, Greece, Kosovo, Montenegro, Romania, Serbia, Slovenia and Turkey) which have been chosen on the strength of geography but also on the basis of economic and political criteria. Turkey is a much larger country compared to any of the other states and its economy, because of its size and dynamism, affects to a large extent financial, trade and energy flows to the rest of SE Europe. As it is widely known, the SE European countries are highly dependent on Russian gas imports, with some of them, such as Bosnia & Herzegovina and FYR of Macedonia, receiving their gas supplies almost fully from Russia. In contrast, Western European countries import a smaller percentage of Russian gas. This means that the SE European countries need to do relatively more than Western Europe, in terms of development to lower their dependence on Russian gas and increase their security of gas supply. This includes building underground gas storage facilities, building gas pipelines and interconnectors between European states to diversify flow and finding alternative sources of natural gas.

The use of underground gas storage capacities is an efficient way of securing uninterrupted, reliable, and flexible gas supplies and thus I will briefly discuss on the current situation and future developments in terms of UGS facilities in SE Europe.

Currently, in **SE Europe** there are 13 underground gas storage facilities in operation in 5 countries, which are Romania, Croatia, Serbia, Bulgaria and Turkey and all of these facilities are mostly based on depleted gas fields.

Romania has eight (8) underground gas storage facilities, four of which are located in the center of the country, while the others are located near Bucharest, in the south. Romania is second among the region's countries in terms of working gas capacity, having the ability to store up to 3.1 bcm of gas in its underground facilities.

Croatia has one (1) underground facility for gas storage, which is located in the south of the capital Zagreb. The working gas capacity of Okoli UGS amounts to 553 mcm of gas. In periods of high demand, the gas is withdrawn at a daily rate of up to 5.8 mcm, while the injection rate approaches 4 mcm/d.

Serbia uses one (1) depleted field as underground facility for gas storage, which is located at the country's north, in the village Banatski Dvor, near the border with Romania. The total working gas capacity is 450 million cubic meters of gas.

Bulgaria has one (1) underground gas storage facility, which is also a depleted gas field. It is located in Chiren, to the north of the capital Sofia. The total capacity of the Bulgarian underground facility amounts to 550 mcm of gas. Bulgartransgaz, the combined operator performing licensed activities of natural gas transmission and storage, is the facility's operator, having received a license from the Bulgarian regulator (SEWRC) in 2006.

Turkey has two (2) gas storage facilities, close to Istanbul, with a combined storage capacity of 2.84 bcm in two depleted gas fields (Kuzey Marmara and Değirmenköy).

But what lies ahead?

The countries in SE Europe are expected to be active in the coming years, developing some new underground gas storage facilities. The need for additional regional gas storage capacity becomes even more evident, especially if we consider the forecast that Europe will increase its dependence on imported gas to 70% by 2030. The gas consumption in Europe, up to 2030, is estimated to reach 640 bcm, while imports and storage capacity are estimated to rise to 490 and 140 bcm respectively.

Bulgaria and **Croatia** have announced their intention to upgrade their storage facilities. As mentioned earlier, in **Bulgaria**, there is a current gas storage capacity of 500 mcm in an underground site in Chiren. The target is the facility's upgrade so as the new capacity to reach 1 bcm and the withdrawal rate to be 10 mcm/d. After this development, Bulgaria would be able to cover all its domestic needs and those of neighbouring countries. The **Croatian** state company Podzemno Skladiste Plina (PSP), having already completed the preparatory actions, will proceed with the construction of a much needed new gas storage facility, which is expected to ameliorate the fluctuations of domestic gas consumption. The new facility will be located in the east of the country and specifically in the area Grubisno Polje with a gas storage capacity of 25-40 mcm. There are also plans for another UGS in Beničanci, a village in northeast Croatia, with a planned annual gas storage capacity of 2 bcm.

Albania has several suitable sites for gas storage, including, a salt dome in Dumrea (up to 2 bcm) and the depleted Divjaka gas field (up to 1 bcm). Based on a preliminary feasibility

study, the possible UGS at Dumrea Salt Dome could have the cheapest cost for gas storage, about \$76/mcm.

In **Romania**, Romgaz, the largest natural gas producer and the main supplier, announced in September 2014 that it has completed an investment of €27 million to upgrade the UGS facility in Urziceni, from 250 mcm to 350 mcm, thereby increasing the company's overall gas storage capacity to 2.8 bcm.

Turkey is expected to follow a similar path, going ahead in developing new underground gas storage facilities. In July 2014, Turkey signed a loan agreement of 400 million dollars with the World Bank for the construction of a new underground gas storage facility in the lake Tuz Golu, which is located in central Anatolia. The project, which was opened in February 2017, was developed by the state company Botas while the storage capacity of the facility amounts to 960 mcm, with a daily withdrawal rate up to 40 mcm. According to Gas Storage Europe (GSE), Turkish Petroleum Corporation (TPAO), which developed and manages the existing underground facility at Kuzey Marmara, is expected to proceed with expansion works, which will add to the overall gas storage capacity an additional 1.66 bcm of gas.

In **Serbia**, the expansion of the existing underground gas storage in Banatski Dvor is being examined, so as the new capacity to be upgraded from 450 mcm to 1.2 bcm. The only possible underground gas storage project in **Greece** is the depleted gas field in South Kavala, but as several analysts point out, this project is expected to proceed only through public-private partnership.

To conclude, the total underground gas storage capacity in SE Europe, which is estimated at 13.64 bcm in 2015, is just enough to cover periodic peaks but is not regarded as adequate for planning purposes and for ensuring long-term security in the various countries' energy systems. In this respect, LNG, in which the next three sessions of this Workshop will focus on, has lately been identified as a suitable alternative which can successfully augment grid demands during prolonged peak demand periods. Currently, only Greece and Turkey in SE Europe use LNG to complement the operation of their national gas systems while a number of new projects are in the offing, including Krk LNG terminal in Croatia.