

# The role of the Caspian region in world energy security and diversification of energy supply

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## Abstract

*In the nearest future the Caspian Sea region will play an increasing role in the Europe energy supply. It became one of the main suppliers of oil and natural gas to the world market. Foreign players show the increased interest to the energy potential of the Caspian Sea. The issue of estimating oil and gas potential of Caspian region has gained international political and economic importance. At the same time "Caspian - Europe" has now not only economic but above all geopolitical contradictions. It concerns the issues of the sea waters and the coastal areas, which are rich in energy resources. Analysis of energy resources data of the region shows the differences in the estimates due to political and economic interests of key players. The potential of the Caspian region in natural gas supply is analyzed in this article. The possibilities of infrastructure diversification of energy supply in the global market are evaluated in this research.*

**Key words:** energy resources, energy supply, Caspian region, diversification, energy security.

**J.E.L. classification:** Q41.

## 1. Introduction

Energy plays an essential role in economic and political life of any country. As strategic resource energy provides security, defense and prosperity, improves living standards of the population, as well as guarantees political stability and sustainable development of the economy. Energy production, recycling and supply on the world market create new opportunities for the economic development of the country and strengthen its role in

international aspect. This article is devoted to the research of the Caspian region potential in the international energy supply and justification of energy supply routes diversification in modern conditions.

## 2. Main text

Since the 90s of the 20th century to the present, economic and political changes influence on the growth of energy resources value in the world economy, what also effects on the growth of the risks arising from lack of their diversification. From the point of energy resources supply on European and the world market Caspian region is very important.

In the Soviet period, excepting only oil exploration in Azerbaijan, the Caspian Sea potential has been largely untapped. After the collapse of the Soviet Union, the countries of the region gained access to the strategically important raw material base of the Caspian Sea. However, they used a variety of approaches to the formation and development of the energy sector. Regional governments' cooperation between the Caspian countries should contribute to improving the energy supply, which will improve the export indicators.

The ability of particular country to increase natural gas exports depends on how quickly it can provide infrastructural the supply of energy resources to world markets, that means the ability to develop and implement the necessary investment projects.

Estimation of Caspian Sea energy resources is significantly different at the regional and international levels and till nowadays there is no generally accepted estimated value.

Thus, on the EIA's (the US Energy Information Administration (EIA)) estimation in 2004, the Caspian Basin has 232 trillion

cubic feet of natural gas [1].

However, according to the report, published in June 2010 the proven gas reserves decreased compared with previous forecasts (Table. 1). [2]

*Table 1. Evaluation of main Caspian countries proved oil and gas reserves*

Country	Proved oil reserves, billion barrels	Proved gas reserves, trillion cubic feet
Kazakhstan	30	2,40
Azerbaijan	7	2,0
Turkmenistan	0,7	7,94

The main developer of gas reserves is Turkmenistan. Azerbaijan, Kazakhstan, and Turkmenistan have already concluded numerous agreements with the large oil companies from the USA, the UK, Norway, Netherlands, Italy, Japan, Saudi Arabia, Oman and Russia to develop oil and gas areas of the Caspian Sea.

Only in Azerbaijan 33 oil companies from 14 countries, including Russia are working on the implementation of 17 major oil and gas projects. Several international oil and gas consortium also created in Turkmenistan.

**Azerbaijan.** Azerbaijan, which has historically been an oil producing country, gradually acquired the function of a natural gas producer. Natural gas mining is carried out mainly in the Shah-Deniz area, which was discovered in 1999. Gas is supplied by pipeline through Turkey to the South Caucasus.

**Kazakhstan.** Gas production in Kazakhstan is mainly carried out in the greatest Tengiz area.

**Turkmenistan.** Today Turkmenistan has not only a huge land and sea resource base of hydrocarbons, but also the possibility of its use. Experts estimate the total hydrocarbon resources potential of the country up to 71.2 billion tons of oil equivalent, 18.2 billion tons are in sea area. Currently, Turkmen gas is exported in three directions: in Russia, Iran and China.

Despite the active development of reserves in the Caspian region, there are at least two challenges appeared. The first one is related to the dividing of the Caspian Sea into spheres of influence among the riparian countries, and the second - with a choice of the best ways of hydrocarbons transportation from the Caspian region.

The problem of Caspian Sea legal status is really quite complicated. Today, five countries have access to the Caspian Sea and they cannot reach a common position on this issue. If considering the Caspian Sea as the sea, its area (similar to the North Sea) should be divided in the sectors among the coastal countries. If considering the Caspian Sea as a closed lake reservoir, the use of the water area has to be shared, without any distinction. Only gradually, after much debate, Caspian countries agreed on the compromise principle: "Water is common, and the bottom is divided."

This means that the water area of the Caspian Sea with its biological resources must remain in the common ownership of the five countries - as a united and indivisible. Nowadays coastal countries opted for bilateral cooperation.

Even more difficult is the problem of transportation of oil and gas, the main part of which production is intended to Europe. This complexity is primarily due to two main factors: geopolitical and economic.

The essence of the geopolitical factor first of all is in the peculiarities of the political and geographical situation in the Caspian region.

The peculiarities of transport and geographical situation of the Caspian region, which is thousands of kilometers away from the main oil and gas markets is the essence of the economic factor. This means that the system of oil and gas pipelines should ensure both maximum bandwidth and minimum investment and suitable transit tariffs for companies.

Today there are three major infrastructural objects operating on the European direction:

- Caspian pipeline;
- South Caucasus Pipeline;
- Turkmenistan-China pipeline.

**Central pipeline system (Caspian pipeline).** The system was developed in 1960-1988, and is transporting natural gas from the Caspian Sea to the north of Russia, where joins with the Russian pipeline system.

Also there is functioning Caspian gas pipeline from Turkmenistan, which transports Turkmen and Uzbek gas.

**South Caucasus Pipeline (SCP).** This pipeline delivers natural gas from the Caspian region to Georgia and Turkey. Start of the pipeline operation began in 2007 and has 180 billion cubic feet of natural gas transportation

capacity.

### **Asia Export Markets (Turkmenistan-China pipeline).**

Oil consumption in China has increased significantly, so China began to invest in oil and gas resources in the Caspian Sea.

Japan is also interested in the transportation of Caspian oil and natural gas to satisfy the growing needs of the economy. Thus, Japanese banks are interested in financing the projects of pipelines development. One of them is the Caspian Pipeline Consortium, which could increase the potential of oil on the world market.

India and Pakistan Economies are also characterized by increasing energy demand, so these countries are interested in development of pipeline, which will connect Turkmenistan and India. This will deliver gas from Turkmenistan to the growing Asian market, and generally to diversify natural gas exports.

The implementation of Caspian "Nabucco" project, which will increase the energy security of the region, is important to diversify gas supplies to the Europe. It is intended for the transportation of Central Asian gas via Georgia and Turkey. "Nabucco" project was launched in 2002, but was postponed several times due to lack of sufficient capacity of gas supplies. In June 2013 it was announced that the project was closed and declared a priority in the development of the Adriatic pipeline.

Gas corridor from Azerbaijan to Europe "Nabucco" was developed in parallel with the "South Stream" project. Experts claimed that Azerbaijan does not have enough gas to provide the "Nabucco" project fully.

However, in the current difficult political conditions between EU and Russia, experts have begun to find new opportunities to diversify gas supplies and Azerbaijan project received a second chance for implementation. It is planned to fill the pipeline, not only with Azerbaijani gas, but also to transport the gas from Turkmenistan.

For the delivery of Turkmen gas to the pipeline "Nabucco" it is also necessary to construct new pipeline. To do this, it is important to solve the problem of legal uncertainty of the Caspian Sea. It is expected that the Convention on the legal status of the Caspian Sea, which is agreed at 80%, may be signed in 2016 at the summit in Astana.

The main advantages of «Nabucco» are as

follows [3]:

- reducing of Eastern European countries dependence from Russian gas;
- project is open for different competing gas transit suppliers, what will protect consumers from monopoly pricing;
- encourage the researches of new gas areas in the Caspian region.
- the development of a trans-Caspian pipeline that connects Turkmenistan, Uzbekistan and Kazakhstan as a supplier of natural gas to European markets bypassing Russia;
- reducing of political, economic and environmental risks and threats.

### **3. Conclusions**

The results of the research suggest that there is no common accepted estimation of the Caspian region energy potential both on international and national levels, due to political and economic interests of regional and external players.

One of the most important problems of modern energy policy the EU is providing alternative ways of energy supply. Caspian region with its proven reserves of energy resources is the most promising region for the successful implementation of diversification policy in Europe.

In the conditions of considerable energy dependence on Russian energy sources the EU is seeking to establish an independent access to significant reserves of energy resources in Central Asia. According to estimates of the EU, the Caspian region can provide 15% of the EU's gas demand until 2020. Direct access to the Central Asia gas reserves, which should provide a diversification of energy supply, has become one of the most important issues of European energy policy.

Despite on the developing of the Caspian energy resources transporting infrastructure, the functioning of oil and gas pipelines and prospects of realization new energy projects in the Caspian region are conjugate with the competition between the Caspian countries and politicization of energy cooperation between them.

Therefore, an important condition for strengthening the Caspian region role in supply of gas resources to the European and world market is to find and implement effective projects of diversity energy supplies.

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