

# The influence of technical, economic and political factors on energy projects in Bulgaria

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**Abstract:** Energy is at the heart of the economy. The good combination of technical, economic and political factors is paramount for the implementation of energy supply transport projects in Bulgaria. The gas pipelines affecting Bulgaria are a good example of errors and misjudgments due to underestimating some of these factors. In the case with the "Blue Stream" the Bulgarian government misjudged the Russian technological capabilities. During the negotiations for the "South stream" the Bulgarian government did not underestimate the technological capabilities of the other side, but the projects had to be abandoned because of the confrontation between the West and Russia. Both projects had solid economic and technical foundations, but Bulgaria proved not able to defend its own interests. Given the impact of the political factors, it is clear that Bulgaria must wait for an appropriate "window of opportunity" in order to prevent damaging decisions in similar cases.

**Keywords:** Rockefeller, technical, economic and political factors, "Blue Stream" and "South stream" projects, "window of opportunity"

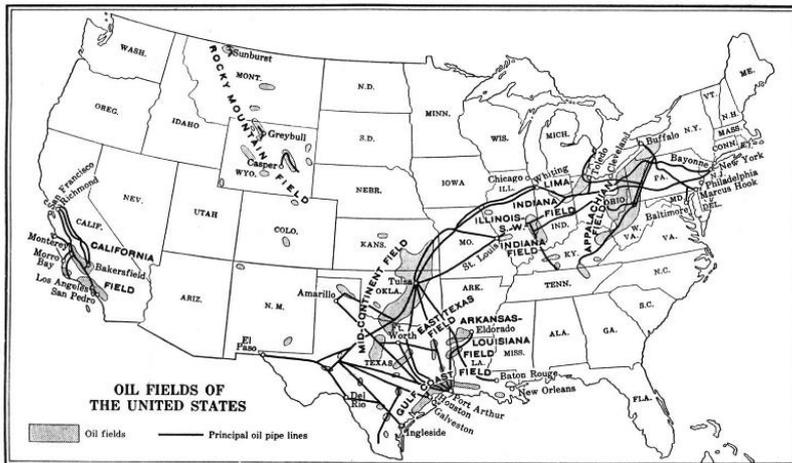
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## INTRODUCTION

When it comes to trade routes that interact between different parts of the world economy, special attention is paid to energy supply roads - energy is at the heart of the whole economy. The good combination of technical, economic and political factors is paramount for the implementation of energy supply transport projects, Taking into account the three groups of risks, is very difficult, and on the other hand, the implementation of these projects is of great importance for the whole economy.

For instance, the rapid reaction to the technical innovations allowed John D. Rockefeller to build his famous oil monopoly in the 1870s. The possibility of carrying oil through wrought iron pipes was developed in 1863, at the very beginning of the oil production in the USA. Pipelines sharply reduced the transportation costs and lot of pipelines emerged quickly to deliver the oil to rail-stations, tanks or refineries. Rockefeller first appreciated the importance of the innovation and in 1872 bought a small local area network.

Fig. 1: Map of the main oil fields and connecting pipelines in the construction of the Rockefeller monopoly



Source: <http://www.micheloud.com/fxm/so/pipe.htm>

Four years later, in 1876, he already controlled half of all existing pipelines, and at the end of 1879 controlled almost all pipelines built in the United States. By imposing its transport monopoly, he managed to turn it into an economic one by acquiring the competitors, breaking them down with dumping freight charges.[1]

In the case of Standard Oil's expansion, these are well-calculated technical and economic risks, combined with zero political risk. It was not until 1911 that political considerations led to the first antitrust laws in the United States and required the transformation of the entire business, but Rockefeller's economic structure and influence remained stable.

Currently, pipeline transport is essential in the transportation of liquids or gas over long distances. As of 2014, a total of 3,500,000 km of pipelines were in operation in 120 countries around the world, with 65% of this in the United States, 8% in Russia and 3% in Canada. Land transport costs are 3 to 5 times lower than rail and road transport, with shipping only being cheaper in the case of oil.[2] However, mixing political and economic considerations makes it difficult to analyze, design and build transport facilities for the energy sector.

## I. THE "BLUE STREAM" PROJECT

A good example of errors and misjudgments are the gas pipelines directly or indirectly affecting Bulgaria. The "Blue Stream" is the main gas pipeline that transfers natural gas from Russia (Krasnodar region) through the Black Sea to Turkey. It is built by "Blue Stream Pipeline B.V." - a joint venture of "Gazprom" (Russia) and "Eni" (Italy). On the Turkish side, the partner is the energy company "Botas". For "Gazprom", the pipeline was built to avoid Russian gas supply routes to Turkey through the territories of third countries, incl. Bulgaria.

An agreement between the Bulgarian side and "Gazprom" was not reached in 1996 because of the desire of the Russian company to gain control of the Bulgarian gas transmission network. The Bulgarian side feared this loss of control. During this period the relations between Russia and Bulgaria reflected a growing geopolitical

discrepancy, so that the Bulgarian side could not hope for a favorable attitude and privileged conditions of an "ally", unlike Belarus.

During the negotiations, the Bulgarian government misjudged the Russian technological capabilities. Warnings to run alternate routes along the bottom of the Black Sea have not been taken seriously. Until then, no pipeline of such depth had been built. The political and economic risks in this case remained mainly for the Bulgarian side. A Russian success imposed Bulgaria to the risk of losing by 2020 the whole gas transit to Turkey, leaving Bulgargaz's gas network for internal use only. The technical risks remained for the Russian side, but it managed to cope with them due to the cooperation with „Eni”.

Following the failure of negotiations with Bulgaria, the preparation of the gas project began in 1997 through an agreement for building a gas pipeline between Russia and Turkey. “Gazprom” and “Botas” signed a 25-year gas sale agreement, while “Gazprom” and “Eni” negotiated the technical support by “Saipem”, an Italian construction firm that used the technological and financial assistance of a Japanese consortium, incl. “Mitsui”, “Sumitomo” and “Itochu.”

Figure 2: Blue Stream Project Map



Source: [https://ru.wikipedia.org/wiki/Голубой\\_поток](https://ru.wikipedia.org/wiki/Голубой_поток)

Taking the technological risk proved justified: 446 kilometers of pipes were laid at the bottom, incl. at a record depth of 2100 m without intermediate compressor stations. The cost of project reached \$ 3.2 billion. The first gas deliveries from Russia to Turkey started in February 2003, with the official opening ceremony in November 2005.[3]

The success of the project brought additional benefits: the adopted technology allowed reducing the technical and financial risks and planning similar projects in the Black, Baltic and North Seas. Subsequent projects allow Russia to reorganize its gas export schemes to the detriment of transit countries such as Ukraine, Bulgaria and Poland. This also affects the geopolitical rivalry between Russia and the Western countries in Eastern Europe. Therefore, different interpretations regarding the benefits of the project from an environmental and economic point of view make the objectively analyze more difficult.

For example, experts have long warned that Turkey is probably not the most reliable market for Russian gas, although the Turkish government provided long-term guarantees for gas purchases.[4] Construction has been accompanied by scandals caused by independent environmental organizations. However, they are still suspected of serving the interests of geopolitical rivals and competitors.

Some analysts pointed out that Turkey's gas needs were overestimated and that official estimates for 2010 should be cut by 40%. The Italian concern "Eni", the partner of "Gazprom", also lowered its estimates for the expected consumption by 38 billion cubic meters by 2010, instead of the announced by "Botas" 54.5 billion cubic meters. These estimates were also influenced by the fluctuations in economic conditions.

Commissioning delays nourished the comments on Blue Stream such as: "*a large but underutilized asset - a technology giant with little chance of making a return on investment.*"[5] At the same time, plans are being drawn up for alternative supplies of fuel from the Caspian region, both to Turkey and to major EU consumers. Political considerations other than economic realities also weigh in. The following Table 3 gives an idea of the economic viability of the "Blue Stream" project:

Table1: Gas deliveries to Turkey

Deliveries in Turkey	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	...	2017
All, billion m3				19,9	23,4	23,8	20	18	26	27	26,7		29
Blue stream, billion m3	2,0 <sup>[6]</sup>	3,2 <sup>[7]</sup>	5,0	7,5	9,5	10,1	9,8	12,0	14,0	14,7	13,7		15,8 <sup>[15]</sup>

Source: [https://ru.wikipedia.org/wiki/Goluboj\\_potok](https://ru.wikipedia.org/wiki/Goluboj_potok)

In the case of the Blue Stream project, Bulgaria lost transit fees for the quantity indicated in the tables. There is also a risk that the "Trans-Balkan" gas pipeline might become meaningless if gas supplies were not negotiated through our territory to other countries after 2010-2021. Considering the three groups of factors, the following can be concluded: the "Blue Stream" project is economically and technically sound, especially given that the solutions developed therein are also applicable in subsequent similar pipelines – "North Stream" 1 and 2, "Turkish Stream".

The analogies minimize the technical risks, together with the costs involved. The project seems even better justified if we consider it as part of Russia's overall strategy to reduce its dependency on energy export intermediaries. Given the political factors at the time (the end of the 1990s) Bulgaria did not have many options to prevent this unfavorable decision.

## II. THE "SOUTH STREAM" PROJECT

"South Stream" is an unrealized international project for transportation of natural gas from Russia through Southern Europe to Italy. The pipeline was planned to cross the Black Sea bottom - from the Anapa region to the port of Varna. Initially, the two branches had to cross the Balkan Peninsula to Italy and Austria, although their exact routes were not identified.

Figure 3: Map of the planned South Stream gas pipeline



Source.:

[https://bg.wikipedia.org/wiki/%D0%A4%D0%B0%D0%B9%D0%BB:South\\_Stream\\_map.png](https://bg.wikipedia.org/wiki/%D0%A4%D0%B0%D0%B9%D0%BB:South_Stream_map.png)

The construction of the pipeline began on December 7, 2012 and was due to end in 2015. Capacity was set at 63 billion cubic meters of gas annually. The project was estimated at 16 billion euro. The pipeline was expected to diversify Russian natural gas supplies to Europe and reduce suppliers and buyers' dependence on unreliable transit countries (especially Ukraine).

The first gas deliveries were planned for late 2015. On April 17, 2014, an attempt was made to thwart the project for the first time - the European Parliament adopted a resolution recommending the refusal to build the pipeline. In response, the European Commission announced that there was no talk of freezing "South Stream" construction.[6] On June 8, however, Bulgarian Prime Minister Plamen Oresharski after a meeting with US congressmen announced the suspension of the work "*until the remarks of the European Commission are eliminated*".[7]

On December 1, 2014, Russian President Vladimir Putin said while visiting Turkey that Russia could not continue to build "South Stream" because of the European Union's "non-constructive position". A memorandum on the construction of a gas pipeline with the same capacity to Turkey, "Turkish Stream", has been announced. The doubling of the "Blue Stream" gas pipeline has also been announced. Subsequently, different and controversial versions of "Who stopped the project?" are coming to Bulgaria. The opinions of the persons involved have changed several times over the past 5 years.

This time in the negotiations the Bulgarian government did not underestimate the technological capabilities of the other side - positive experience has been gained from the construction and operation of the "Blue Stream", as well as other pipelines, for example "North Stream" 1. Only the expert Vasil Filipov, former head of "Bulgargaz", has warned that the project cannot be implemented for technical reasons. According to him, the Russian company couldn't pump and deliver 63 billion cubic meters gas to the Bulgarian high bank near Varna.

The Blue Stream compressor stations on the Russian coast operate at a pressure of 154 atmospheres, said he, while 350 atmospheres are required for the capacity of "South Stream". At a pressure of 154 atmospheres, only 17 billion cubic meters of gas with an output pressure of 27-28 atmospheres could be delivered to the

Bulgarian coast near Varna. Excluding Turkey and Greece, there will be no gas left for European countries. According to the same expert, the problem of condensation of the gas heated by the compressors remains, which has to be solved with experimental cooling installations.[8]

In the absence of specialized knowledge, the assessment of these warnings made can only be made indirectly. First, there are some inaccuracies in the interview in question - there are wrong parameters of the existing "Blue Stream" and its doubling, wrong parameters of the envisaged investment, etc. Contrary to V. Filipov's projections, between 2017 and 2019 the "Turkish Stream" offshore section has already been built. At the same time, a world record was established for the speed of laying of a gas pipeline - 6.27 km per day. Political biases are also evident in the text, which raises doubts about the author's objectivity.

Second, the main route of the South Stream had to consistently pass through Bulgaria, Serbia, Hungary, Slovenia and Italy. Deviations were planned for Croatia and Republika Srpska in Bosnia and Herzegovina, also to the gas hub in Austria. Intergovernmental agreements between Russia, on the one hand, and Bulgaria, Serbia, Hungary, Greece, Slovenia, Austria and Croatia, on the other, have been signed for the implementation of the ground part of the project. Joint ventures have been set up in these countries in the framework of intergovernmental agreements:

- Austria – "South Stream Austria Gmbh", Shareholders: "Gazprom" (50%), OMV (50%);
- Bulgaria – "South Stream Bulgaria AD", Shareholders: "Gazprom" (50%), "Bulgarian Energy Holding EAD" (50%);
- Hungary – "South Stream Hungary Zrt.", Shareholders: "Gazprom" (50%), "Magyar Villamos Művek Zrt." (MVM) (50%);
- Greece – "South Stream Greece S.A.", Shareholders: "Gazprom" (50%), "DESFA S.A." (50%);
- Serbia – "South Stream Serbia A.", Shareholders: "Gazprom" (51%), "Serbiaagaz" (49%);
- Slovenia – "Southern Stream Slovenia LLC.", Shareholders: "Gazprom" (50%), "Plinovodi d.o.o." (50%).

It is difficult to assume that contracts can be signed and such a chain of businesses created on the basis of a technically impossible project.

### **Financial parameters**

According to the intergovernmental agreement signed between Bulgaria and Russia on January 18, 2008, Bulgaria could earn between \$ 250 and \$ 400 million annually in transit fees. Initially, a volume of 30 billion m<sup>3</sup> of transmission has been foreseen annually, with projections to expand capacity to 60 billion m<sup>3</sup>. [9] Initial have been for expenditure of 3.1 billion euro, subsequently estimated at 4.7 billion euro (May 2014). At the time of project abandonment the estimates reached € 7-10 billion. (This excess over the initial estimates is common for infrastructure megaprojects.)

The scheme proposed by Gazprom was valid throughout the route to the end points in Austria and Italy - Gazprom was involved in the construction of the gas pipeline through joint ventures and was committed to supplying gas to the final customers. Construction loans provided in case of need had to be repaid at the expense of transmission fees. The intentions were serious - on July 31, 2014 the Ministry of Agriculture of Bulgaria provided land to South Stream Bulgaria AD for the construction of the gas pipeline. The deal was worth EUR 10.3 million. Gazprom also

made initial investments, which were subsequently written off as losses and amounted to EUR 800 million, according to an official statement by President Vladimir Putin.[10]

Expenditure on both the Bulgarian and Russian side has been made in conditions of incomplete transparency. Subsequently, the initial political and market conditions changed, so that after the failure of the project, an accurate assessment of its profitability cannot be made. Under the scheme, "Gazprom" was committed to all phases of the project. Thus it assumed all risks, which implied moderate profits for the Bulgarian side with minimal risk. The question of profitability goes back mainly to skillful negotiations. In addition to immediate profits (estimated \$ 400 million a year), hard-to-calculate geo-economic profits should be added:

- Bulgaria would become an indispensable unit for energy transfer and the project could play a pilot role for other similar projects. It also could provide additional external guarantees for the national security, which is usual for such an important infrastructure object. In this case, the benefit calculations could only be approximate, including also non-economic ingredients.

### **Political obstacles**

The problem with the South Stream project was that after 2014, the confrontation between the West and Russia entered an acute phase after the power change in Ukraine, the subsequent separation of Crimea and the civil war in the eastern part of the country. The aim of "South Stream" was to bypass Ukraine as a transit country, increasing so the security of supply and reducing the transportation costs. These considerations persisted well before 2014. At the beginning of the 21st century neoconservatives with influence in recent US governments, although hesitant whether China or Russia is the main threat, are imposing an offensive strategy, according to Paul Nietzsche's ideas: This is where Charles Mackinder and Zbigniew Brzezinski fears about pooling Eurasia's resources against the United States. [11] Gas projects are said to be involved in this strategy. Ukraine's involvement in opposing Russia reinforced the West's determination to preserve the country as a gas transitor.

There was also the desire of private investors to acquire the Ukrainian state-owned gas transportation network, which guarantees safe profits. This explains the resistance to the project and the increased pressure to thwart it. At the same time, the US and EU supported the alternative "Nabucco" gas pipeline project. However, he proved to be ineligible for financial reasons. Already in 2011, EU Energy Commissioner Günther Oettinger linked the financial assistance for the modernization of the Ukrainian gas transmission system (GTS) with Russia's guaranteed gas supplies to Europe. On his advice, Ukrainian authorities tried to persuade the Russian government to abandon the "South Stream" project.

In 2014, the European Commission, represented by Günther Oettinger, terminated negotiations with Russia on the construction of "South Stream". Then followed the meeting Plamen Oresharski with US congressmen. Leonid Kalashnikov, the first deputy chairman of the Foreign Affairs Committee of the State Duma of Russia, describes the case as "*an attempt to blackmail Russia.*" [12] The EC position is that the terms of the project run counter to the EU's Third Energy Package, the document regulating the Union's energy market. (Although "South Stream" construction contracts were signed before this document went into effect.)

Political considerations and concerted pressure from the US and the EU are evident. In this situation, Bulgaria does not have enough resources to defend the project. It can only rely on allies with limited political weight eg. Serbia, Hungary, Austria. The lost benefits cannot be reimbursed.

Facing economic and political pressure, Russia is rethinking its tactics of retaining and expanding its share of the European energy market. Gazprom is abandoning its role as a monopoly supplier, stopping attempts to build entire networks at their own end, focusing instead limits on building pipelines to the EU borders, no further. Construction of duplicate routes surrounding Ukraine from South and North, "Turkish Stream" and "North Stream 2" is on the way, taking into account the changes in the EU legislation.

The losses for Bulgaria are obvious. In an effort to reduce the damage, "Bulgartransgaz" seeks political and financial support for the construction of the so-called "Balkan" gas hub with capacity of 30 billion cubic meters of gas per year. The possible project is estimated at between \$ 1.4 billion and 2.4 billion and is in line with the Third Energy Package. He stresses the need for secure direct supplies from Russia to Greece, Macedonia, Hungary and Serbia.

Bulgaria's strong position is "Bulgartransgaz"'s current contract with "Gazprom" for the transit of nearly 15 billion cubic meters of gas annually by 2030, according to which "Gazprom owes the agreed fees, regardless of whether Russia continues to supply these quantities. Bulgaria remains a convenient entrance to Central Europe, but the United States has so far managed to limit Russian influence by successfully thwarting Russian energy projects in the region. Even the prospects for the Turkish Stream pipeline still remain unclear. [13]

## CONCLUSION

In the case of the "Blue Stream" and "South Stream" projects, Bulgaria misses benefits and seeks to minimize losses. Considering the three groups of factors, the following can be concluded: the projects in question are technically sound, and the economic benefits are a matter of proper negotiation. However, given the impact of the political factors, it is clear that Bulgaria must wait for an appropriate "window of opportunity" in order to prevent damaging decisions. Accurate economic estimates seem difficult to draw up, and in any case political risk must be valued in some way.

## References

- [1] [http://www.pbs.org/wgbh/americanexperience/rockefellers/peopleevents/p\\_r ock\\_jsr.html/](http://www.pbs.org/wgbh/americanexperience/rockefellers/peopleevents/p_r ock_jsr.html/)
- [2] The World Factbook — Central Intelligence Agency“. [www.cia.gov](http://www.cia.gov). August 21, 2016
- [3] [https://ru.wikipedia.org/wiki/ Голубой\\_поток](https://ru.wikipedia.org/wiki/Голубой_поток)
- [4] <https://fakti.bg/imoti/6638-gazoprovodyt-sin-potok-sys-symnitelni-ikonomiczeski-uspehi>
- [5] Ibid
- [6] European commission denied freezing construction of «South stream». <http://www.novinite.ru/articles/9022/>, [lenta.ru](http://lenta.ru), 24.04.2014
- [7] <https://1prime.ru/News/20140608/786356899.html>
- [8] Ibid
- [9] Mediapool, <https://www.mediapool.bg/bulgaria-shte-pecheli-mezhdu-250-i-400-mln-ot-yuzhen-potok-news129736.html>
- [10] Vedomosti, 30.05.2018, <https://www.vedomosti.ru/business/news/2018/05/30/771301-stoimost-sriva-yuzhnogo-potoka>

[11] Chankov, G., "Changes in the world economic order and the strategies of the main players", „The Silk Road”, Confucius Institute, Sofia, 2017, ISSN 1314-9865, p. 162

[12] Gudok, <https://www.gudok.ru/economy/?ID=1179175>

[13] Chankov, G., "The „New Silk Road” in Central and Eastern Europe”, „KSI Transactions on Knowledge Society”, March 2017, ISSN 1313-4787, p.23