IJEEP
INTERNATIONAL JOURNAL OF ENERGY ECONOMICS AND POLICY
EJ EconJournals
ISSN: 2146-4553

International Journal of Energy Economics and Policy

ISSN: 2146-4553

available at http: www.econjournals.com

International Journal of Energy Economics and Policy, 2020, 10(4), 494-499.

Russian South Gas Corridor prospects

Gul'nar Osmanovna Khalova[1]*, Pavel Pavlovich Pilipenko[2], Elena Andreevna Isayeva[1], Alexander Emilovich Petkov[1]

[1]Gubkin Russian State University of Oil and Gas (National Research University), Moscow, Russia, [2]Plekhanov Russian University of Economics, Moscow, Russia. *Email: khalovag@yandex.ru

Received: 02 January 2020 **Accepted:** 27 April 2020 **DOI:** https://doi.org/10.32479/ijeep.9163

ABSTRACT

The European gas market modernization, tied to the adoption of the Third Energy Package in 2009, has led to new challenges and risks for Russian natural gas exporters. The most serious question is the development of an adaptive export strategy, targeted at mutual collaboration and better supply terms. That is especially true for South and South-East Europe (SEE) gas markets, which, due to the new energy policy of Europe, may become a global natural gas transport hub and the key supply region for Russian exporters. It is noted that the European Union countries couldn't reduce the supply of hydrocarbons from the Russian Federation, an example of this is the growth of supplies in 2018. The paper also highlights the role of the countries of SEE in strengthening cooperation and increasing the volume of natural gas supplies from the Russian Federation.

Keywords: Energy Relations, South and South-East European Countries, Natural Gas Supply
JEL Classifications: Q3, Q4

1. INTRODUCTION

Energy market binds Europe and Russia together inseparably due to the immense amount of hydrocarbon resources in possession of Russia and one of the world's biggest energy importers being Europe. Indeed, the gap between the gradually decreasing energy development and increasing consumption resulted in EU's energy dependence adding up to 55% in 2017, meaning that more than a half of EU's energy requirements were met by pure imports.

Figure 1 shows that crude oil dominated energy imports on EU market in 2018 with 70% share, followed by fossil gas in gaseous form with 19%, both being almost equal to their performance in 2017. That being said, Russia has kept its position of European Union's oil, gas, and coal leading supplier.

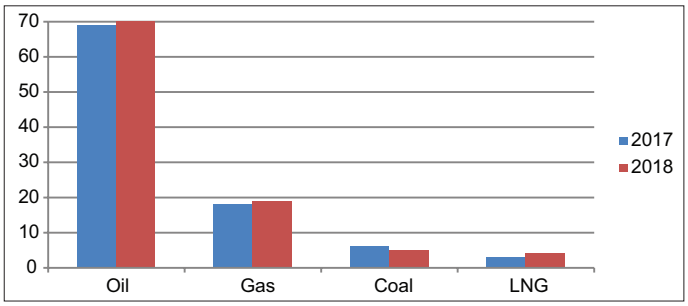
Russian energy source supply to Europe is of strategical importance for both parties, proved by their large, increasing energy dependence of each other (Migaleva and Pakin, 2016). In 2017 Russian Federation met 39% of EU's requirements in coal, 40% in oil, and over 40% in gas by supplying through different transport routes and infrastructure, including railway traffic, tankers, and gas tubes.

However the fact that coal and oil are subjects to global market trade, meaning high liquidity and transparency of their price settings, as well as supply flow guaranteed by presence of many potential import sources, means that Russian-European energy relations are focused on gas.

In spite of the long history of effective energy partnership between Russia and European Union countries, recent years have been rather tense for both parties in terms of gas negotiations. Rapidly changing energy policy of EU coupled with political tension directly affect Russian gas supply to the European market and implementation of projects with Russia's participation.

The adoption of Third Energy Package with its numerous amendments and regulations has in fact created a new market setting, which both EU members and non-member countries have

Figure 1: EU countries' import share of every energy source, %



Source: Eurostat, 2019

to adapt to (Pakin, 2012). In spite of Europe's market diversity and Russian gas rejection trend, the region is short on abilities. According to Eurostat EU countries' gas demand was 401 billion cbm in 2018 with only one third of the amount provided by domestic production, which has been declining in recent years, especially in the North-West European countries that recover gas from the North Sea. In particular EU's biggest gas field in Groningen production was decreased to 28 bn cbm in 2016 and reached 21.6 bn cbm in 2017. Blue-flame gas production in Great Britain and Denmark has also dropped 2.5 times the amount in the last 10 years.

European market's imports, external supply and transportation routes stability and safety dependence is thus growing.

2. ANALYSIS

The main natural gas importers in Europe in 2018 were Germany (78.9 bn cbm | 19.7%), Italy (63.8 bn cbm | 15.9%), and France (47.8 bn cbm | 11.9%). These three countries together composed almost one half of total gas imports of Europe.

European Union's current pipeline gas suppliers are Russia, Norway, and North Africa. Furthermore, despite European chiefs of state's continuous desire to diversify supplies and decrease dependence on Russian energy sources, our country holds the biggest share in supplies –40.2%. Moreover, Russian supplies had 1% growth in 2018 compared to the previous year performance (Pakin, 2014). Norway is the second biggest supplier with 35%, while Algeria is the third with 11.3%. The world market share of all other countries which supply natural gas to EU was about 13.5% in 2018 (Table 1).

Russia has the highest number of explored gas fields in the world with 25% world share. According to Russian Energy Ministry, 733 bn cbm of gas were produced in Russia in 2018, which is an absolute record, showing production growth by 7.9% since 2017. Our nation's gas-transportation network is also the largest in the world. Main gas pipelines expanded over 180 thousand km across Russia in 2017. European market, in spite of all complexities and contradictions in relations with Western partners, remains the headline of Russian exports.

In case imports of natural resources are viewed as a share in total imports to EU from Russia (Table 2), one can see that in 2014-2018 period energy sources composed about 60% of imports. During

Table 1: Natural gas imports of EU countries (28 countries), main trade partners' share, %

	2012	2013	2014	2015	2016	2017	2018
Russia	34,9	41,4	37,4	37,7	39,8	38,7	40,2
Norway	31,8	30,4	32,1	32,1	25,1	25,3	35
Algeria	13,3	12,6	12	10,8	12,5	10,6	11,3
Qatar	8,4	6,5	6,8	7,7	5,7	5,2	5,8
Others	11,6	9,4	11,7	11,7	16,9	20,2	7,7

Source: Eurostat, 2019

Table 2: Key energy resources import share in total volume of imports to EU from Russia, %

	2012	2013	2014	2015	2016	2017	2018
Crude oil	51	48	44	38	38,5	39	39
Natural gas	16	17	16	19	17	16	19
Coal	2	2	2	3	3	5	5
Total	69	67	62	60	59	60	63

Source: Eurostat, 2019

that time the oil share dropped from 44% to 39%, while natural gas and coal shares increased. Energy source share in EU's total imports from Russia was stable.

In 2017 Russia's share in two key product imorpts to EU was 39% for natural gas and 30% for crude oil. Figures 2 and 3 show comparable results of oil and gas imports to countries of European Union from Russia and other nations in total volume.

2018 ended with Gazprom marking absolute record in gas export to the European market with supply volume of 200.8 bn cbm, 8.6% more than in 2017 (Table 3).

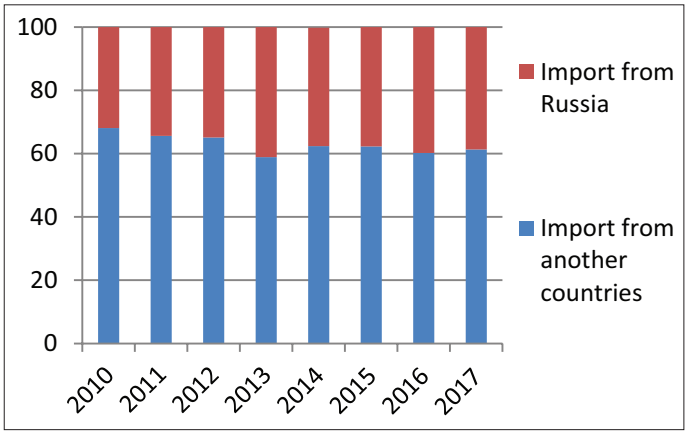
According to Gazprom exports Western European countries receive about 81% of all natural gas supplies from Russia while Central European countries receive 19%. In 2018 Gazprom supplied 162.9 bn cbm of gas to Western Europe (and Turkey) and 38.38 bn cbm to Eastern and Central European markets. Biggest importers are: Germany – 58.5 bn cbm (29.1% of total exports), Turkey – 23.96 bn cbm (11.9%), and Italy – 22.77 bn cbm (11.3%) (Figure 4).

Eurostat data makes distinct the fact that the most dependent on imports are the smaller importer-countries. In 2018 Russia's share in national imports of gas of such countries as Bulgaria, Romania, Slovenia, and Serbia was 75-100%, 50-75% for Greece and Italy, 0-25% for Croatia. Nowadays South-East Europe countries make for the biggest region with isolated gas markets, which strongly depend on a single supplier – Russia.

Some countries in the region, namely Albania, Kosovo, and Montenegro are lacking even a basic gas-transportation network, making the volume of natural gas entering the region much lower than in other European countries. For instance, gas supply level of Bulgarian households was lower than 2% in 2017, while average level in European Union was 27-50%.

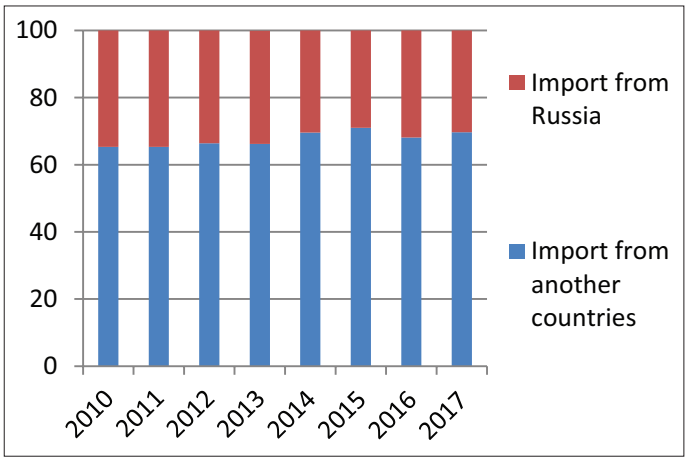
Total consumption of natural gas in the region was 23.5 bn cbm in 2017, 10.3 bn cbm of which were produced by Romania and

Figure 2: Russia's share in EU natural gas imports, %



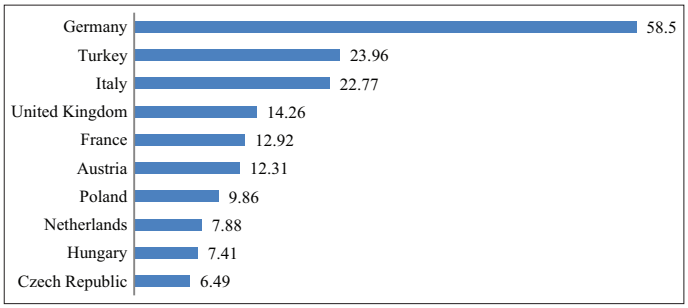
Source: Eurostat, 2019

Figure 3: Russia's share in EU crude oil imports, %



Source: Eurostat, 2019

Figure 4: Volume of Russian natural gas supply to European market (+ Turkey), bn cbm



Source: Gazprom exports, 2019

1.2 bn cbm – by Croatia. Bulgaria and Serbia as well can make up for a small share of national consumption with domestic production (79.28 bn cbm and 509.7 bn cbm respectively as of 2017). According to Eurostat consumption of natural gas in South-East Europe will increase to 44 bn cbm in 2025 and to 50 bn cbm in 2030.

South-East Europe has good potential in terms of economic development. Annual growth rates of 2.5% in SEE countries is estimated to be reached up to 2030, which will cause natural gas market to expand. That is especially important for the region, as it has small oil and gas volume of its own. Certain countries in the region are 100% dependent on energy resource import. Moreover, the majority of these countries depend on a single supplier – Russia. Among South and South-East European countries Bulgaria, Greece and Italy are most attractive to Russia as potential partners. They were pointed out by our nation for playing the key role in the planned network projects designed to supply Europe with hydrocarbon from Russia and fuel from other countries.

Bulgaria is highly dependent in importing Russian energy, since it receives 90% of gas, 80% of oil and 100% of nuclear fuel required from Russia. Currently, Russian Federation is the sole supplier of blue-flame gas to the country. Annual natural gas consumption of Bulgaria is around 3 bn cbm and it has had a stable growth for the last decade (2.4 bn cbm in 2009, 2.7 in 2014 and 3.2 in 2017). Since Bulgaria fully depends on Russian supplies, any decrease may be hurtful for the country's economy.

Italy is very dependent on fossil fuel imports, especially natural gas. In 2017 natural gas was the primary source of electricity in the country. Domestic production doesn't meet 10% of Italy's natural gas requirements, making import the only way meet the increasing demand. Thus in 2018 Italy became second biggest natural gas importer in Europe behind Germany and third biggest consumer behind Germany and the United Kingdom. The major amount of natural gas imports to the country is supplied by Russia through pipelines in Ukraine and South-East Europe (Gotev, 2015; Mustaparov, 2016). According to VR Italy imported 56.2 bn cbm of pipeline gas in 2018. Constant domestic production cuts make Italy very dependent on foreign energy source supplies, which is why Russia has an important role of Italy's biggest gas supplier, with import share of almost 50% in 2018 (ENEA, 2019).

Present day Russian-Italian relations are, indeed, based on energy partnership, which has started to move beyond raw material exports and imports due to network development.

Greece is a major partner as well, since that country is often viewed as Russia's number one ally in Europe for its support of Russian policy, which is vastly implemented by other EU members (for instance, in relation to Ukraine crisis in 2014). A key role is held by one of the recent agreements, signed in 2017 by Greek company DEPA, Italian Edison SpA and Russian Gazprom on collaboration in organizing a southern route of Russian gas supply to Europe. On the basis of the signed agreement the companies obliged themselves to collaborate on implementing the Turkstream and Poseidon projects in the area between Turkey-Greece border and Italian border (Aghayev, 2017).

The importance of that agreement is confirmed by the fact that Greece and Italy are also included into the largest multinational gas project, developed by the European Commission, the Southern Gas Corridor project (SGC). The SGC network is mainly focused on approximately 6 bn cbm gas supply from Azerbaijan to Turkey per year and another 10 bn cbm per year for Italian and other customers. SGC is divided into three integrated pipeline systems:

Table 3: Volume of natural gas supply to long distanced countries (bn cbm)

Year	1990	1995	2000	2005	2010	2015	2016	2017	2018
Total	110	117,4	130,3	154,3	138,6	158,6	178,3	192,2	200,8

Source: Gazprom exports, 2019

Figure 5: Case scenarios of the TurkStream pipeline extension connecting to South and South-East Europe

Source: Geopolitical Intelligence Services, 2019

South-Caucasian, Trans-Anatolian (TANAP), and Trans-Adriatic, meant to transfer Azerbaijani gas from Shah Deniz gas field to Europe. South-Caucasian pipeline extension will transfer Azerbaijani gas across Georgia, where it connects to TANAP, which streams through Turkey (Roberts, 2018). TANAP's flow capacity is estimated to increase to 23 bn cbm up to 2023 and to 31 bn cbm up to 2026, with the pipeline becoming capable of transferring Turkmen, Iraqi, or Iranian gas in the future. TAP starts at Turkish-Greek border. It will transfer gas to Italy through Albania. TAP is estimated to supply 10 bn cbm to Italy by the year 2020 with potential of doubling supplies and extensions on the Balkans through Ionic Adriatic pipeline and Interconnector Bulgaria-Greece link (Roberts, 2016).

However, despite the magnitude of the project, its annual capacity of 16 bn cbm is around half the amount expected by European Commission. Estimated EU annual gas requirements amount to approximately 500 bn cbm. 130 bn cbm are produced domestically while the rest are imported from other countries. South gas corridor with its expected 10 bn cbm supply can meet only 2% of the EU demand. This data shows that Russia will remain the main natural gas supplier to EU, meeting more than 40% of region's requirements. Even the expected output increase to 20 bn cbm will not help the situation. Moreover, due to the continuation of the Turkstream route construction the South gas corridor is becoming less and less competitive.

3. DISCUSSION

The Turkstream suggests 31.5 bn cbm of gas transfer per year by constructing two pipeline strings from Russian Black Sea docks (Anapa) to Kiyikoy settlement in the European part of Turkey. The finished seafloor part includes 930 km of the pipeline's total 1300 km. One land-based string is expected to connect the seafloor part to the existing gas-transferring system of Turkey near Luleburgaz. That string will transfer gas to the Turkish consumers. The second string will be stretched to the final destination on the Greek border near Ipsala. It is meant to supply the Southern and South-Eastern countries of Europe with gas (TurkStream, 2019).

Currently Gazprom is constructing the second string of the Turkstream, expecting to transport about 3 bn cbm of gas per year to Greece, 3 cbm per year – to Bulgaria, a little bit to Macedonia, while the rest will go to the steady customers in the West. Gazprom has three case scenarios (Figure 5):

1. South-West route, basically, a revival of the Interconnector Turkey-Greece-Italy project (IGTI / Poseidon) (Daily Sabah, 2017). The IGTI project was designed for Azerbaijani gas transfer through the global SEC route, however, the European Commission chose TAP instead. The pipeline would consist of land-based Greek part (623 km) and seafloor part between Greece and Italy (Poseidon – 207 km) with overall estimated capacity of 14 bn cbm per year. Gazprom negotiated the revival of the project with the Italian Edison and the Greek DEPA companies. In June of 2017 the three parties signed an agreement concerning the management of the Russian gas supply to European countries by the Southern route. Gazprom also had discussions with Greek and Italian energy sector officials about the potential route. The pipeline was included into the Greek-Italian partnership declaration the same year
2. North-Western route, which will basically bring to life the major part of the original South Stream project. The project is tied to the development of pipeline network in Bulgaria, Serbia and North Balkans, stretching up to the Baumgarten terminal in Austria or the North-East Italy Tarvisio. Currently, this is the primary scenario. During the first half of 2019 Russian officials negotiated with their Serbian, Austrian, and

Hungarian colleagues on the energy partnership and new gas-transfer network construction. It is worth noticing that the above-mentioned countries significantly increased imports of Russian gas in 2019. According to Gazprom, in the first quarter of 2019 the supplies to Austria have vastly increased in comparison with the same period of 2018 – up to 32.9%, coupled with 9.3% increase in supplies to Hungary and 8.8% - to Serbia

3. The third scenario suggests using the pipeline in construction – TAP, which lies between Turkish-Greek border and the South of Italy. Originally the entire 10 bn cbm per year volume of gas was meant for transferring the Shah-Deniz Azerbaijani gas. However, in accordance with EU legislation, there are technical and legislative opportunities for further applications of the expanded capacity of TAP in additional gas transfers in case a non Shah-Deniz Consortium supplier requests the pipeline usage.

There is a possibility of connecting the Turkstream to TAP due to the ratification of the Turkish-Greek international agreement, which proposes the development and revival of the ITGI/Poseidon gas transfer pipeline between Turkey, Greece, and Italy (O'Byrne, 2017). Said Ratification guarantees a route for any communications between Turkey and Greece, making possible the construction of the new Interconnector over Turkish-Greek border, which would allow the Turkstream to connect to TAP in Greece. The connection may take place on the border between the Turkish Ipsala and the Greek Kipi, where the two key elements of SGC – the TANAP and TAP pipelines – cross. Thus Russia would be able to export gas through TAP by the Turkstream to Europe without violating the Third Energy Package ligislation (Reuters., 2017).

4. CONCLUSIONS

The EU Commission regulations do indeed suggest that 50% of TAP total volume is open for third parties in order to increase its working capacity. The document also states that TAP is to have additional entrances/exits to Greece for acquiring gas from non-Shah Deniz Consortium sources by request of a third party. In these circumstances Russia is able to reserve a part of TAP capacity by requesting either transfer of its own gas (only as a supplier) at second stage of the supplies or construction of an additional entrance/exit for extra compressors while boosting capacity. Russian actions do not violate the TEP regulations in case when it simply sells its own gas on Turkish-Greek border without owning the network.

Furthermore, Russia itself is interested in the SGC expansion, claiming access to the pipeline. As a result, the European gas supply diversification project may become an additional route for Europe's current and main supplier – Russia. However, potential pumping of the SGC with Russian gas might cause a rivalry between Russian and Azerbaijani gas in volume and market share. In the face of future TAP and TANAP extensions Russian gas might ruin the prospect of getting extra volume expected from Azerbaijani gas fields (including alternative sources in Turkmenistan, Iran, Iraq, Mediterranean region). Thanks to Gazprom's current potential in gas the company will be able to supply additional gas for the increased TAP capacity even earlier than any other potential supplier. That will lower the significance of SGC in context of EU diversification plans and will become a heavy blow to the EU and US political investments into implementation of a project that is to decrease Europe's gas dependence on Gazprom.

Moreover, the first Turkstream string construction completion by the end of 2019 will erase Turkey's dependence on Ukrainian transit and secure lower prices on importing Russian gas. The pipeline will also allow Russia to significantly decrease its reliance on transit through Ukraine (Gunnar and Rzayeva, 2016). Furthermore, the second Turkstream string construction will definitely increase the geopolitical value of Turkey for Russia and turn the country into a transfer corridor, valuable for both Russia and EU. It is expected that the energy ties between Ankara and Moscow will greatly affect the future EU-Turkey relations in context of EU-Russia energy partnership evolution, which, in spite of unstable success, is heading towards increasing mutual dependence.

Despite the rift in relations after the Eastern Ukraine conflict and annexation of Crimea the mutual dependence of Europe and Russia in the energy field keeps growing, while diversification options do not seem sufficient for current route replacement. In this context Russian attempt to bypass Ukrainian territory not only in the North (by Nord Stream 2), but also by the Southern route may end up strengthening that mutual dependence. With the realization of the Turkstream the new situation will help increasing the direct role of Ankara in the energy triangle and significantly affect the future of EU-Turkey relations (Pakin, 2018).

Bilateral relations with Russia in the natural gas sector will be in the focus of Turkey-EU energy partnership empowerment. Indeed, Ankara may make use of its strategical position in that field by acting as a gas route crossroads for South-East and South European countries. This scenario also suggests Turkish energy policy in regard to EU to be capable of balancing the strategical interests of Moscow and Brussels. In this context it is important for Ankara to keep realizing the Turkstream project not only as a Russian partnership strengthening initiative, but as a specific practical means of maintaining European energy security as well.

Should EU members in the South-East Europe be viewed as a tool for dodging further transit disputes with Ukraine and securing Russian supplies to their markets, than the Turkstream may become an even more significant variable in the European energy equation. The pretext for this scenario is Turkey's indisputable obligation to realize the South Gas Corridor, supporting both TANAP and TAP and, in prospective, allowing new gas flows (from Russia) to link to that network.

Being a transitory country for energy sources and a bridge between the East and the West, Turkey has a wonderful opportunity of becoming the region's energy center and an actor to be reckoned with. In context of Russia's regional and global integration it is important to transport gas into Europe through Turkey, a country that might soon become a global energy center and a key actor in the energy field (Dynkin et al., 2018).

REFERENCES

Aghayev, E. (2017), Prospects of Cooperation Between Russia and Turkey. Available from: https://www.researchgate.net/publication/318284213_Prospects_of_Cooperation_Between_Russia_and_Turkey/fulltext/5961824a0f7e9b819460d1e1/Prospects-of-Cooperation-Between-Russia-and-Turkey.pdf.

Daily Sabah. (2017), Agreementto Bolster Gas Transfer between Turkey, Greece and Italy. Available from: https://www.dailysabah.com/energy/2017/09/19/agreement-to-bolster-gas-transfer-between-turkey-greece-and-italy.

Dynkin, A., Telegina, E., Halova, G. (2018), The role of the Eurasian economic union in the formation of greater eurasia. Mirovaya Ekonomika i Mezhdunarodnyye Otnosheniya, 62(4), 5-24.

ENEA. (2019), Italian National Agency for New Technologies. Stockholm, Sweden: ENEA.

Eurostat Statistics Database. (2019), Available from: https://www.ec.europa.eu/eurostat.

Gazprom Exports. (2019), Blue Fuel Corporate Newsletter No. 53. Available from: http://www.gazpromexport.ru/files/blue_fuel_53743.pdf.

Geopolitical Intelligence Services. (2019), Available from: https://www.gisreportsonline.com/gis-dossier-how-turkey-scor.

Gotev, G. (2015), Greece, Macedonia, Serbia and Hungary Discuss Turkish Stream. Available from: https://www.euractiv.com/section/energy/news/greece-macedonia-serbia-and-hungary-discuss-turkish-stream.

Gunnar, O.A., Rzayeva, G. (2016), Turkey in the Geopolitics of Natural Gas. Available from: https://www.hks.harvard.edu/sites/default/files/centers/mrcbg/files/66_final.pdf.

Migaleva, T.A., Pakin, A.K. (2016), Strategies of Russia and the EU at the present stage in the gas sector. Upravlenie Ekonomicheskimi Sistemami: Elektronnnyi Nauchnyi Zhurnal, 11(93), 10-20.

Mustaparov, R.M. (2016), Improving Energy Cooperation Between Russia and the European Union in the Gas Sector. Moscow: Canadian Economic Science Diss. p196. Available from: https://www.guu.ru/files/dissertations/2016/04/mustaparov_r_m/dissertation.PDF.

O'Byrne, D. (2017), Turkey Clears ITGI to Greece, Opens Way for TurkStream, Natural Gas World. Available from: https://www.naturalgasworld.com/turkey-approves-itgi-poseidon-link-with-greece-paving-way-for-link-with-turkstream-55400.

Pakin, A.K. (2012), Implementation of the third energy package in the European Union. Vestnik Rossiiskogo Gosudarstvennogo Torgovo-Ekonomicheskogo Universiteta, 6(48), 107-110.

Pakin, A.K. (2014), Possible alternatives to the South Stream gas pipeline. Vestnik Rossiiskogo Gosudarstvennogo Torgovo-Ekonomicheskogo Universiteta, 11(90), 52-59.

Pakin, A.K. (2018), Export of Russian Natural Gas to European Countries: Prospects, Challenges, Risk. Moscow: Canadian Economic Science Diss. p195. Available from: http://www.ords.rea.ru/wp-content/uploads/2018/06/Pakin.pdf.

Reuters. (2017), Gazprom Discusses the Use of the Poseidon and TAP Pipelines for Deliveries to Europe. Available from: https://www.ru.reuters.com/article/businessNews/idRUKBN1580VT.

Roberts, J. (2016), Completing Europe: Gas Interconnections in Central and Southeastern Europe. Washington, DC: Atlantic Council. Available from: http://www.atlanticcouncil.org/publications/reports/completing-europe-update.

Roberts, J. (2018), Three Pipelines and Three Seas: BRUA, TAP, the IAP and Gasification in Southeast Europe Atlantic Council. Global Energy Center. Available from: https://www.atlanticcouncil.org/publications/reports/three-pipelines-and-three-seas-brua-tap-the-iap-and-gasification-in-southeast-europe.

TurkStream. (2019), Turkish Stream Project-PJSC Gazprom. Available from: https://www.gazprom.com/projects/turk-stream.