



Factors of the Formation of Modern Energetic Reality in North Western Europe

Fe Amor Parel Gudmundsson^{1*}, Sergey Prosekov², Natalia Sokolinskaya², Sergey Tarakanov², Evgeniy Lopatin²

¹University of Iceland, Reykjavik, Iceland, ²Financial University under the Government of the Russian Federation, Moscow, Russia.
*Email: fap4@hi.is

Received: 10 February 2020

Accepted: 28 April 2020

DOI: <https://doi.org/10.32479/ijEEP.9392>

ABSTRACT

The paper proposes the radical transformation of the global energy market is influenced by a combination of geopolitical, macroeconomic, technological realities, the combination of which leads to fundamental changes in the world order in the development of the gas segment. The paper uses the method of energy balance. It proved ensuring growth in gas production and transportation, production and sale of high value-added gas products in the domestic, European and Asian markets. The onset of the Golden Age of Gas, according to the forecast of the International Energy Agency (IEA), is expected by 2035, when global gas consumption will increase by one and a half times. The study result is that the expansion of the range of gas resources and the modernization of the structure of the gas industry, the formation of the latest Eurasian energy architecture in the face of increasing competition in international markets necessitate the strengthening of Russia's leading positions in the global gas market.

Keywords: North Western Europe, Strategy, Union, Partnership, Forecasting

JEL Classifications: C30, D12, Q41, Q48

1. INTRODUCTION

China will retain its status as the largest energy consumer, but India will provide the largest additional demand for energy, whose needs will more than double, including due to rapid demographic growth. An increase in energy demand is also projected in a number of countries in Asia, the Middle East, Western Africa and Latin America.

It is likely that the development of the growing economies of these countries will require not only hydrocarbon raw materials, but also the high technological redistribution that Russia can provide.

This paper has a high actuality level because the modern geostrategy is becoming the determining line in the implementation of the following components of the interconnected system: "the energy policy of Russia - the geopolitical interests of the

GEP - the formation of the Greater Eurasian Partnership", which has the contexts of both nation-states themselves and partnership interaction of a whole group of regional integration associations (Brown, 2001).

Under the conditions of the gas market transformation, Russia is able not only to remain a supplier of energy raw materials (both via pipelines and in the format of pipeline of natural gas - LNG), but also become an international center for gas chemical production developing innovative technologies for multistage processing of raw materials. The international cooperation is required, assuming the optimal dispersal of gas hubs, LNG plants throughout Russia and its partner countries.

The main contribution of this paper to the body of knowledge is that Russia's strategically significant position on strengthening and modernizing the European vector as a key priority of diplomatic and

trade relations can be clearly seen in the energy sector, especially in building partnerships with the North Western Europe (NWE) and Turkey (Nyangarika et al., 2019b; Nyangarika et al., 2019a).

2. LITERATURE REVIEW

Russia's strategically significant position on strengthening and modernizing the European vector as a key priority of diplomatic and trade relations can be clearly seen in the energy sector, especially in building partnerships with the North Western Europe (NWE) and Turkey (Nyangarika et al., 2019b; Nyangarika et al., 2019a).

At the same time, the high risks of politicizing economic cooperation in this area, including the manifestation of energy constants, dictate the need to focus on modernizing the "pipe economy" with access to other options for the formation of an energy framework (Denisova, 2020; 2019; Denisova et al., 2019).

Thus, the effect of the multiplication of investments in field production and operation technologies, the construction of high-tech natural gas processing plants will result to restore the potential of domestic energy production (Lisin, 2020a; Dayong et al., 2020).

Defending domestic interests in the diplomatic field is advisable to bring to mutually beneficial long-term agreements and decisions (An et al., 2020). Russia, remaining a key exporter of energy resources and working out the balancing of the Asian vector, will continue to be interested in the North Western Europe (NWE) markets in the long run and, most likely, will establish a constructive energy dialogue as part of a comprehensive Eurasian energy security strategy (Branch, 1993; An and Dorofeev, 2019).

The formation of the modern energy picture of the world is significantly influenced by the change in global energy poles, in which the USA is transformed from the main consumer of hydrocarbons into its largest producer and exporter. This creates tough competitive conditions in the European and Asian directions, which leads to an accelerated pace of implementation of the policy of diversification of oil and gas supply routes (Cameron, 1985).

At the same time, the transition to technological upgrade fundamentally changes the foresight forecasts of the consumption of energy resources. The emergence of hybrid options for a combination of hydrocarbon, mainly gas and renewable energy sources (RES), is made possible through the introduction of innovative solutions, digitalization and intellectualization of energy flow management. The growing growth trend in the production of compressed natural gas vehicles, methane- hydrogen fuel mixtures using innovative accumulator batteries, the development of multi-fuel refueling networks leads to a significant reduction in the share of all types of vehicles running on gasoline and diesel fuel (Blanchard, 1983).

3. METHODS

Each decade new promising ways of generating energy appear, competencies are being developed for their early application and

even a foresight postponed for a relatively distant future. It is naive to believe that Western countries will accept the growing global economic and industrial power of Russia, despite the understanding that talking to it in the field of geopolitics in the language of sanctions is destructive. In addition, attempts to restrain this growth are a global challenge not only to Russia, but also to the whole multipolar world. A turn towards Asia means not only the expansion of markets for energy resources, but also cooperation in high-tech sectors, the intensification of which allows some countries of this mega-region to claim high positions in international economic ratings (Lopatin, 2019a,b).

Therefore, one of the effective tools to overcome the sanction pressure on Russia should be the import substitution policy, which implies the continuous improvement of domestic technological competencies. It is important to solve the problem of the quickest and most complete transition to Russian equipment and technologies as a strategic line of our own innovative, scientific and technological progress, which, in our opinion, is expedient to implement both independently and in a productive partnership with foreign partners based on long-term agreements in this sphere (Meynkhard, 2019a; Meynkhard, 2020; Balestra and Nerlove, 1966; Davis, 2008; Davis, 2011).

Not only the involvement of neighboring countries in the process of implementing the concept of partner regionalism, but also the inclusion of the BRICS states of good neighborliness, the parallel development of the binary systems Russia-China, Russia-Turkey, Russia-Syria, Russia-Iran, Russia – Libya, Russia – Pakistan, Russia – Vietnam, which are of particular promise for the development of global energy.

Despite all the known geopolitical difficulties and uncertainties, actualize the creation of new institutions from the foresight perspective energy in the Asia-Pacific region (Nyangarika et al., 2018).

4. RESULTS

Energy balance means ensuring growth in gas production and transportation, production and sale of high value-added gas products in the domestic, European and Asian markets, which requires the consolidation of economic and political potential (Mikhaylov et al., 2020; Mikhaylov, 2019; Mikhaylov, 2018).

Countries experiencing a constant energy deficit are striving to influence the situation on world markets in order to create the best conditions for the uninterrupted acquisition of energy resources, and to create opportunities for diversification of energy sources. In turn, the formation of our own energy infrastructure today requires the cooperation of resource capabilities of technologically advanced countries, which confirms the creation of stable geopolitical formations of regional associations, clubs and unions on different platforms of the Eurasian continent.

In Eurasia, the extraction and subsequent transportation of energy resources by land and sea through it involves the formation of a branched energy skeleton that integrates each specific field into the inland areas. The geopolitical consolidation of the Eurasian

architecture of gas pipelines and oil pipelines connects Russian, Central Asian, Middle Eastern and Caucasian fields with the countries of Europe and OPEC with an integrated transcontinental network. It will allow the Eurasian oil and gas structures to be joined, overcome existing misunderstandings and serious contradictions through a constructive dialogue of unions to come to the formation of a common space of unions (Mikhaylov et al., 2019; Mikhaylov et al., 2018; Mikhaylov, 2018b).

The essence of the Eurasian strategy development to the development of mineral and natural resources to provide a balanced and interconnected optimum, including resource extraction, use of raw materials and resource-innovative development of sphere.

Thus, in the context of globalization, both countries and entire regional associations are able to reproduce effective associative

actors in energy policy. The geopolitical transformation of Eurasia with their participation without the involvement of Atlantic partnerships in this process opens up great opportunities for the implementation of joint plans for infrastructure construction and the parallel development of energy systems. In addition, the polycentric way of trade and economic cooperation will not allow a distorted understanding and manipulation of international rules (Figures 1 and 2).

The restoration of the geopolitical status of Russia on the Eurasian continental space, its activation on international agendas, in unity with the transformation of the institution of alliances itself, prompts countries to search for models for combining regional projects, primarily transport and logistics and energy issues.

Naturally, these trends, independent of American influence, cause external pressure on their locomotives-Russia and China. China's

Figure 1: Gasoline export from NWE to USA in 2019, kTons

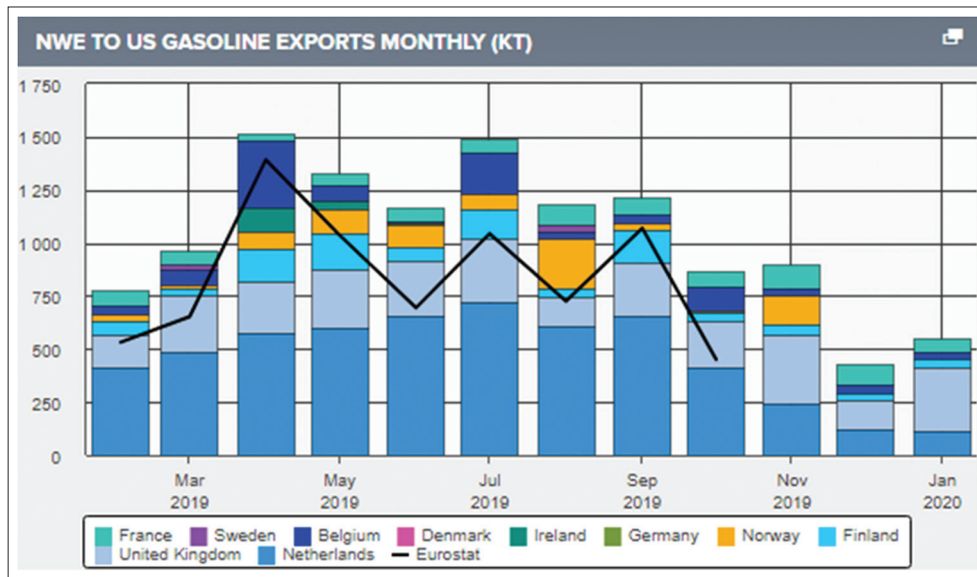
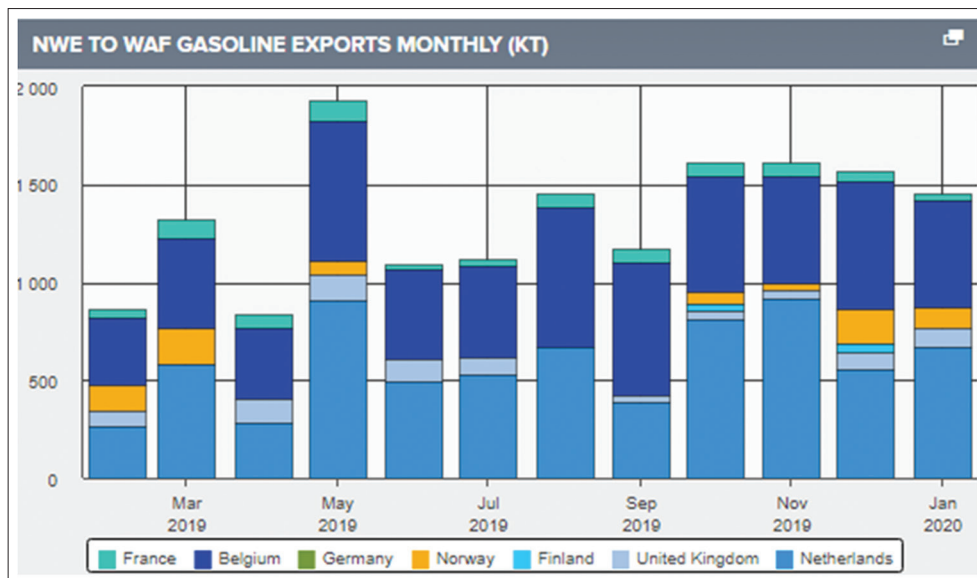


Figure 2: Gasoline export from NWE to Western Africa in 2019, kTons



growing geo-economical influence is opposed by international coalition blocks (Figures 3 and 4).

Thus, methodological prerequisites for the formation of interstate energy unions are created. Their appearance is the latest map of world energy space, the participating countries which are beginning to form configuration (US, China, the United States - Saudi Arabia, the United States - Russia - Middle East, Russia - Central Asia - China).

5. DISCUSSION

In almost every regional integration association, deliberative structures operate - headquarters, clubs, associations, etc. In conditions of constant contact of geopolitical interests, the presence of such integrative configurations is a natural phenomenon (Davis, 2008).

The institutions, based on their joint long-term interests, are aimed at a balanced regulatory and unification regulation of political, economic, energy, ionic, scientific, technological, and educational systems (Davis, 2008; Davis, 2011).

Because of this, the formation of a common energy space is becoming as an objective necessity, as well as the synergy of economic cooperation within the framework of which will be implemented multi-pronged cooperation strategy for the development of national economies, further integrated into the overall integration unions of the line (EAEC, GEP, the North Western Europe and other) (Brown, 2001).

Benefiting from the sum of the geopolitical effects that the implementation of the promising strategy of the Greater Eurasian Partnership reveals allows us to find our unique vector of future movement among existing global universals (Meynkhard, 2019b).

In general, the interacting configurations of energy clusters that integrate gas-chemical, electric power, energy machine building, engineering and design companies, as well as enterprises generating renewable energy sources, can effectively contribute to successful cooperation in the format of Eurasian regional unions (Balestra and Nerlove, 1966; Davis, 2008; Davis, 2011).

Figure 3: Gasoline export from NWE to USA in the beginning of 2020, kTons

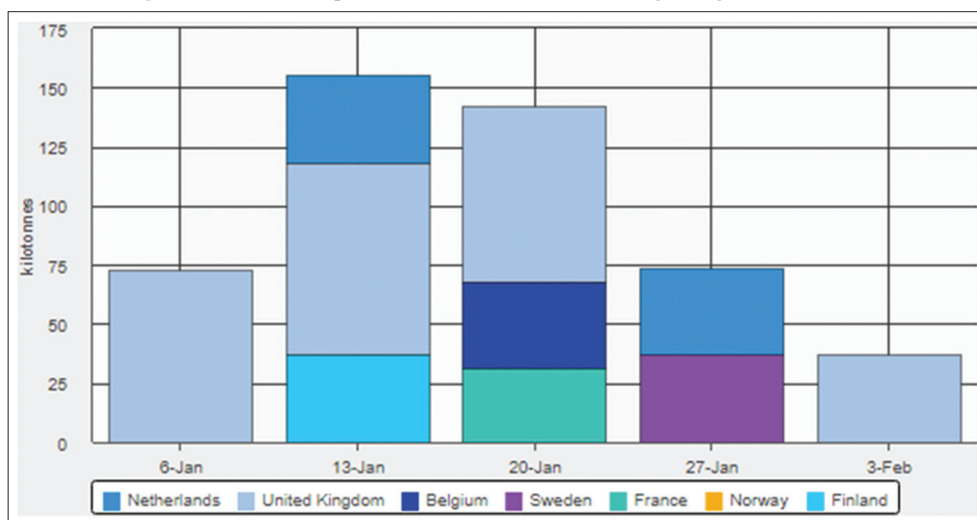
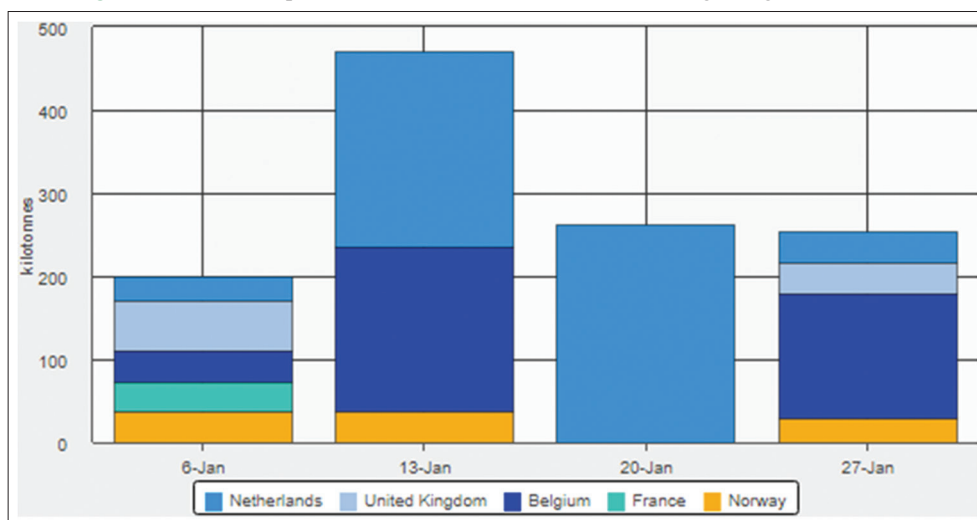


Figure 4: Gasoline export from NWE to Western Africa in the beginning of 2020, kTons



Thus, the achievement of a comprehensive Eurasian partnership is one of the priorities of energy cooperation, including the use of geopolitical and geoeconomic tools by the institutional bodies of the North Western Europe (NWE) and GEP countries, and their desire to enter the wide Eurasian space. At the same time, the participants in these alliances proceed from the desirability of equal relations and the strengthening of union formations in this area (Brown, 2001; 2020; Lisin, 2020b).

Modern geostrategy is becoming the determining line in the implementation of the following components of the interconnected system: “the energy policy of Russia - the geopolitical interests of the GEP - the formation of the Greater Eurasian Partnership”, which has the contexts of both nation-states themselves and partnership interaction of a whole group of regional integration associations (Brown, 2001).

The pivotal basis for launching this movement is the mutual attraction of China and Russia, which has a positive impact on the construction of global polycentric reality (Davis, 2008; An et al., 2019a; An et al., 2019b; An et al., 2019c).

Of course, each country participating in integration seeks to realize its national economic interests and geopolitical ambitions through membership in the union. It is important that there are no striking differences that contradict the spirit of this union, partnership should be based on the implementation of the principle of responsible solidarity. Therefore, the established international associations prefer to accept mainly states with already resolved acute economic and energy problems, political contradictions, preferably one stratification level (Davis, 2008).

National governments are increasingly in need of the systematic use of geopolitical channels of communication with specialized integration entities, especially in the energy sector. In this general paradigm, the political experience of the further construction of the GEP and BRICS fully fits into the general trend, since the importance of these structures is simultaneously growing in Europe, Asia, and other regions of the world, where the systems of supranational coordination bodies are more developed (Brown, 2001).

REFERENCES

- An, J., Dorofeev, M. (2019), Short-term FX forecasting: Decision making on the base of expert polls. *Investment Management and Financial Innovations*, 16(4), 72-85.
- An, J., Dorofeev, M., Zhu, S. (2020), Development of energy cooperation between Russia and China. *International Journal of Energy Economics and Policy*, 10(1), 134-139.
- An, J., Mikhaylov, A., Moiseev, N. (2019c), Oil price predictors: Machine learning approach. *International Journal of Energy Economics and Policy*, 9(5), 1-6.
- An, J., Mikhaylov, A., Sokolinskaya, N. (2019a), Machine learning in economic planning: Ensembles of algorithms. *Journal of Physics: Conference Series*, 1353, 012126.
- An, J., Mikhaylov, A., Sokolinskaya, N. (2019b), Oil incomes spending in sovereign fund of Norway (GPF). *Investment Management and Financial Innovations*, 16(3), 10-17.
- Balestra, P., Nerlove, M. (1966), Pooling gross section and time series data in the estimation of a dynamic model: The demand for natural gas. *Econometrica*, 34(3), 585-612.
- Blanchard, L. (1983), The production and inventory behavior of the American automobile industry. *Journal of Political Economy*, 91(3), 365-400.
- Branch, E. (1993), Short run income elasticity of demand for residential electricity using consumer expenditure. *Energy Journal*, 14(4), 111-121.
- Brown, M. (2001), Market failures and barriers as a basis for clean energy policies. *Energy Policy*, 29(14), 1197-1207.
- Cameron, T.A. (1985), A nested logit model of energy conservation activity by owners of existing single family. *Review of Economics and Statistics*, 67(2), 205-211.
- Davis, L. (2008), Durable goods and residential demand for energy and water: Evidence from a field trial. *RAND Journal of Economics*, 39(2), 530-546.
- Davis, L. (2011), Evaluating the slow adoption of energy efficient investments: Are renters less likely to have energy efficient appliances? In: *The Design and Implementation of US Climate Policy*. Chicago: University of Chicago Press. p301-316.
- Dayong, N., Mikhaylov, A., Bratanovsky, S., Shaikh, Z.A., Stepanova, D. (2020), Mathematical modeling of the technological processes of catering products production. *Journal of Food Process Engineering*, 43, 2.
- Denisova, V. (2019), Energy efficiency as a way to ecological safety: Evidence from Russia. *International Journal of Energy Economics and Policy*, 9(5), 32-37.
- Denisova, V., Mikhaylov, A., Lopatin, E. (2019), Blockchain infrastructure and growth of global power consumption. *International Journal of Energy Economics and Policy*, 9(4), 22-29.
- Lisin, A. (2020a), Biofuel energy in the post-oil era. *International Journal of Energy Economics and Policy*, 10(2), 194-199.
- Lisin, A. (2020b), Prospects and Challenges of energy cooperation between Russia and South Korea. *International Journal of Energy Economics and Policy*, 10(3), 130-135.
- Lopatin, E. (2019a), Methodological approaches to research resource saving industrial enterprises. *International Journal of Energy Economics and Policy*, 9(4), 181-187.
- Lopatin, E. (2019b), Assessment of Russian banking system performance and sustainability. *Banks and Bank Systems*, 14(3), 202-211.
- Meynkhart, A. (2019a), Energy efficient development model for regions of the Russian federation: Evidence of crypto mining. *International Journal of Energy Economics and Policy*, 9(4), 16-21.
- Meynkhart, A. (2019b), Fair market value of bitcoin: Halving effect. *Investment Management and Financial Innovations*, 16(4), 72-85.
- Meynkhart, A. (2020), Priorities of Russian energy policy in Russian-Chinese relations. *International Journal of Energy Economics and Policy*, 10(1), 65-71.
- Mikhaylov, A. (2018a), Pricing in oil market and using probit model for analysis of stock market effects. *International Journal of Energy Economics and Policy*, 8(2), 69-73.
- Mikhaylov, A. (2018b), Volatility spillover effect between stock and exchange rate in oil exporting countries. *International Journal of Energy Economics and Policy*, 8(3), 321-326.
- Mikhaylov, A. (2019), Oil and gas budget revenues in Russia after crisis in 2015. *International Journal of Energy Economics and Policy*, 9(2), 375-380.
- Mikhaylov, A., Moiseev, N., Aleshin, K., Burkhardt, T. (2020), Global climate change and greenhouse effect entrepreneurship and sustainability Issues. *Entrepreneurship and Sustainability Issues*, 7(4), 2897-2913.
- Mikhaylov, A., Sokolinskaya, N., Lopatin, E. (2019), Asset allocation in equity, fixed-income and cryptocurrency on the base of individual risk sentiment. *Investment Management and Financial Innovations*,

16(2), 171-181.

Mikhaylov, A., Sokolinskaya, N., Nyangarika, A. (2018), Optimal carry trade strategy based on currencies of energy and developed economies. *Journal of Reviews on Global Economics*, 7, 582-592.

Nyangarika, A., Mikhaylov, A., Richter, U. (2019a), Influence oil price towards economic indicators in Russia. *International Journal of Energy Economics and Policy*, 9(1), 123-130.

Nyangarika, A., Mikhaylov, A., Richter, U. (2019b), Oil price factors: Forecasting on the base of modified auto-regressive integrated moving average model. *International Journal of Energy Economics and Policy*, 9(1), 149-160.

Nyangarika, A., Mikhaylov, A., Tang, B.J. (2018), Correlation of oil prices and gross domestic product in oil producing countries. *International Journal of Energy Economics and Policy*, 8(5), 42-48.