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## **THE CHANGING EUROPEAN GAS MARKET AND THE EXPORT STRATEGY OF THE RUSSIAN FEDERATION**

**Keywords:** International Relations, Energy security, Russia-foreign policy, European Union.

**ABSTRACT:** Russian authorities have for years been proclaiming that in order to ensure energy security and to increase their economic presence in North-East Asia their priority is to diversify gas export and to increase cooperation with the Asia-Pacific region. Despite frequent meetings at interstate and business levels, and numerous formal – but no binding – agreements, no tangible progress in this regard has yet been made. This paper argues, from a game-theoretic perspective, that peril for Russian geopolitical and economic interests ensuing from both inception of EU energy policy and evolution of the European gas market has been one of the factors hindering Russian plans of eastbound gas export diversification.

### **1. INTRODUCTION**

Since the mid-2000s, for nearly a decade, the subject of energy has prevailed in bilateral relations between the Russian Federation (RF) and the European Union (EU). Due to price disputes involving Russia and its former satellites, which caused interruptions in gas deliveries to Western and Central European states, a conclusion had been drawn that EU-RF energy interdependence might be a source of instability and can have a detrimental effect on economic development, social security and capabilities to achieve foreign policy objectives. This general observation induced policy-makers in Brussels and Moscow to make changes in their

respective energy policies and elevated as in 1970s, the energy security issue to the international political agenda.

As far as the Russian authorities are concerned, gas cooperation with the Asia-Pacific region has been the most beneficial option for the country's independence from the European gas market. Although RF leaders have often declared and pledged to take actions towards export diversification, and notwithstanding the constant increase of the economic and geopolitical relevance of the states of the Far East, since at the turn of the centuries Vladimir Putin took the presidential office the only gas export route from RF to Asia has been built by foreign investors. During that same period the national gas company *Gazprom* has been laying several new pipelines to European consumers and thus is on its way to significantly increase its westbound export.

In the context of rising natural gas consumption and the sharpening rivalry between countries to gain access to reserves of fossil fuels, should one takes into account the abundance of gas deposits in the RF and its significant position in the world supply system, it becomes of utmost importance, not only for Polish or European leaders but also globally, to comprehend the Russian energy policy decision-making process and to explain the outlined contradictions in the RF gas export strategy.

This paper is divided into five parts. In the first section there is a literature review on RF-East Asia energy cooperation, especially concerning major impediments to the negotiations' progress. The next section presents the external dimension of Russia's energy policy and the level of goal accomplishment. The evolution of the European energy market and the reactions of RF authorities aiming to preserve and protect the national interests are discussed in section three. Section four analyses, from the game-theoretic perspective, the relation between shifts in the European energy policy and the Russian decision on the gas export strategy resulting in the choice to either deepen cooperation with the West or to establish new gas contacts with the Asia-Pacific region. Section five concludes the research.

## 2. LITERATURE REVIEW

According to previous studies, in spite of long-standing diplomatic negotiations and numerous meetings at all levels, Russian gas export to the Asia-Pacific region is still in its early stage of development, in a phase of plans and rhetoric of officials rather than at a point of being started and implemented. Authors vary in their assessments of the main reason for this setback. The most common view is that the major obstacle has been a difference of economic interests manifested in the lack of price agreements. The leaders of the Asian-Pacific states have been emphasising their geographical proximity to gas deposits, a market situation and their level of economic development disparate from that in Europe as reasons to buy gas at a discount price. On the other hand, Russian authorities have been aiming to derive equivalent profits from European and East Asian markets, therefore they have been reluctant to agree to diversify the exported gas value for distinct consumers<sup>1</sup>.

The RF economic policy, especially the investment climate in the country and the authorities' bias towards foreign investors, is seen as another barrier for increasing Russian gas export in the eastern direction. A precarious legal environment and a deficiency of the rule of law, overwhelming corruption, red-tape, criminal organisations' influence on the economy, cases of authorities' interference in privately-owned energy businesses and expropriation of properties have all dimmed Russia's investment attractiveness to foreign companies. As a result, the technological and financial needs of the RF energy sector which are essential for the development of new gas deposits and an infrastructure located in a severe climate, have not been met with appropriate know-how and funds inflow<sup>2</sup>.

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<sup>1</sup> L. Jakobson, P. Holtom, D. Knox, J. Peng, *China's Energy And Security Relations: Hopes, Frustrations and Uncertainties*, „SIPRI Policy Paper” 2011, No. 29, pp. 34–35; M. Mareš, M. Laryš, *Oil and natural gas in Russia's eastern energy strategy: Dream or reality?*, „Energy Policy” 2012, Vol. 50, pp. 446.

<sup>2</sup> S. Blank, Y. Kim, *Why Is Russian Energy Policy Failing in Asia?*, „Pacific Focus” 2011, Vol. XXVI, No. 3, p. 411; M. Mareš, M. Laryš, op.cit., p. 446; M. Nojonen, *Introduction: Adjusting to the great power transition*, in: *Russia-China relations. Current state, alternative futures, and implications for the West*, A. Moshes, M. Nojonen (ed.), Tampere 2011, p. 19.

The next impediment for progress in gas cooperation with East-Asia is seen in the Russian foreign policy and RF elite apprehension of the country's role in the world geopolitical order. An unsettled territorial dispute with Japan, anxiety about sovereignty and territorial integrity due to illegal immigration from the People's Republic of China (PRC) resulting in the colonisation of the Russian Far East have shaped unfavourable conditions for an influx of Asian investments, building trust between partners and for a constructive gas dialogue. Furthermore, due to the structure of the PRC energy mix, particularly its minor share of gas in it, unconventional gas potential, diversification of import routes and competition between gas-producing countries, from e.g. the Middle East, Central Asia and Australia for access to the market, gas cooperation with this country might result in, inter alia, adverse to the policy-makers in Moscow, one-sided dependence and geopolitical subordination to the Chinese interests and marginalisation in North-East Asian affairs. The fear of becoming an energy appendage of Asian-Pacific states that are fast-developing, modernising themselves and gaining international prominence has been making Russian authorities more reluctant to increase energy export to the East<sup>3</sup>.

Finally, researchers and experts from the PRC assess that a culture gap that is hard to overcome and is a barrier for constructive political, economic and energy collaboration between the sides has arisen due to the Russian establishment's view of itself in European terms. For them this means that the RF authorities are used to defining national interests and have mostly been concerned with the position in Euro-Atlantic relations and cooperation with the West. As a consequence, the eastern dimension of Russia foreign and economic policy has been neglected, and there is a lack of mutual understanding in Russian-Asian contacts<sup>4</sup>.

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<sup>3</sup> L. Jakobson, P. Holtom, D. Knox, J. Peng, op.cit., pp. 32–33; S. Blank, Y. Kim, op.cit., p. 408; A. Lukin, *Russia and the Balance of Power in Northeast Asia*, „Pacific Focus” 2012, Vol. 27, no. 2, pp. 173–175; S. Blank, *The End of Russian Power in Asia?*, „Orbis” 2012, Vol. 56, No. 2, pp. 251–252, 256.

<sup>4</sup> L. Jakobson, P. Holtom, D. Knox, J. Peng, op.cit., pp. 9–10.

### 3. THE RUSSIAN ENERGY POLICY AND GAS COOPERATION WITH THE ASIA-PACIFIC REGION

Russia is a country abounding in natural gas, it has the biggest proven reserves in the world and has globally been the second largest producer of this fossil fuel. In 2011, 607 billion cubic metres (bcm/y) of gas were extracted in the RF<sup>5</sup>. According to a plan included in the *Energy Strategy of Russia for the period up to 2030* (hereinafter referred to as *the Strategy*), which was enacted on 13 November 2009 by decree of the Russian government's<sup>6</sup>, in a 20-year period this quantity should grow by around 50 per cent, i.e. to 885–940 bcm/y. The development of resources located in the Russian Far East, Eastern Siberia and the Shtokman deposit will be the foundation for this increase. Nevertheless, by the year 2030 gas originating from Western Siberia will be the biggest component of Russian gas output. Decreasing extraction from the Soviet-era deposits in the Nadym-Pur-Taz district, which reached their plateau in the 1980s and 1990s, is intended to be substituted by new production on the Yamal Peninsula and in the Ob-Taz Bay.

The main objective set in *the Strategy* as to the gas sector and its external policy is to diversify the directions of gas export. In 2011, 221.44 bcm/y were sent from Russia to foreign clients. A total of 93 per cent of the volume was used by consumers in European countries (67 bcm/y in the former Soviet Union republics – Estonia, Latvia and Lithuania are not included here, and 140 bcm/y in the rest of the European states). Only 7 per cent (14 bcm/y, which constituted merely 2 per cent of gross gas extraction) was exported to the Asia-Pacific region<sup>7</sup>. *The Strategy* stipulates that the amount of gas sold abroad in 2030 should rise to 349–368 bcm/y (see Table 1), of which 1/5 (about 70 bcm/y) will be sent to the East. It is worth noticing that RF policy-makers have been expecting an increase in

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<sup>5</sup> BP Statistical Review of World Energy June 2012, pp. 22, [www.bp.com](http://www.bp.com) (accessed: 23.01.2013).

<sup>6</sup> Ministry of Energy of the Russian Federation, *Energy Strategy Of Russia For The Period Up To 2030*, Moscow 2010, <http://www.energystrategy.ru> (accessed: 01.11.2011).

<sup>7</sup> BP Statistical ..., p. 28.

the export's share in the total output, which indicates a domestic market's energy efficiency improvement strategy<sup>8</sup>.

**Table 1.** Forecast of gas export from RF for the period up to 2030.

	2008	Phase I (by 2013 – 2015)	Phase II (by 2020 – 2022)	Phase III (by 2030)
Total gas output (bcm/y)	664.0	685.0–745.0	803.0–837.0	885.0–940.0
Total gas export (bcm/y)	241.0	270.0–294.0	332.0–341.0	349.0–368.0
Gas export as a share of the total output (per cent)	36.0	36.0–43.0	40.0–42.0	37.0–42.0
Growth of the total gas export (bcm/y)	–	29.0–53.0	47.0–62.0	17.0–27.0
Total gas export to Europe and FSU (bcm/y)	241.0	240.3–258.7	278.9–283.0	282.7–294.4
Total gas export to the Asia-Pacific region (bcm/y)	–	29.7–35.3	53.1–58.0	66.3–73.6
Share of the Asia-Pacific region in total gas export (per cent)	–	11.0–12.0	16.0–17.0	19.0–20.0
Growth of gas export to Europe and FSU (bcm/y)	–	-0.7–17.7	24.3–38.6	3.8–11.4
Growth of gas export to the Asia-Pacific region (bcm/y)	–	29.7–35.3	22.7–23.4	13.2–15.6
Share of the growth of gas export to the Asia-Pacific region in the growth of total gas export (per cent)	–	67–102	38–48	58–78

Source: Own elaboration based on data from Ministry of Energy of the Russian Federation, op.cit., pp. 136–146.

In *the Strategy*, Russian authorities have pointed to the Asia-Pacific region as the primary direction of new gas export capacity development. In the forecasted period export to Asian markets should account for 60 per cent of the increase of gas sold abroad. Phase I has been planned as a major stage of this policy's implementation. Delivery of 50 per cent of

<sup>8</sup> Ministry of Energy of the Russian Federation, op.cit., pp. 79–82, 136, 141.

total amount of gas destined for the East Asian states has been intended to start by 2015. For this to happen Phase I ought to be solely dedicated to the development of new export capacities to the Far East. In the next two phases the gas volume sold to the Asia-Pacific region should still be growing, although at a much slower pace. Phase II, which falls between 2015 and 2022, is also interesting from the perspective of Russian gas export policy analyses. Throughout this stage the biggest increase in the amount of gas sent to foreign customers is expected. This is due not only to rising consumption in the Asia-Pacific region, but also thanks to the recovery of European economies after the global financial crisis.

In *the Strategy* three countries, i.e. the PRC, the Republic of Korea (ROK) and Japan, have been identified as potential customers of Russian gas in Asia<sup>9</sup>. Negotiations at the intergovernmental and business levels have been conducted for many years, but without much progress or tangible success. No final and binding agreement concerning neither the terms of gas supplies nor the opening of a new export route to any of these three countries has been concluded. Talks with Chinese partners started in the mid-1990s. In 2004 *Gazprom* and the *China National Petroleum Company* signed the *Agreement on Strategic Cooperation* with the aim of establishing direct, pipeline-carried gas supplies from RF to PRC<sup>10</sup>. The next step was made in 2009, when the intergovernmental *Memorandum of Understanding to cooperate in the natural gas sector* was inked and the representatives of both companies put their signatures on the *Agreement on the Major Terms and Conditions for Russian Gas Supply to China*. The latter document defined the basic commercial and technical parameters of the deliveries but did not specify the price<sup>11</sup>. The supply contract was supposed to be signed during President Hu Jintao's official visit to Moscow in 2011; however, a disagreement over US 100 dollars per 1 000 cubic metres of gas between what the Chinese side was willing to pay and how Russian side had valued the commodity resulted in a deadlock in the

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<sup>9</sup> *Ibidem*, pp. 23.

<sup>10</sup> *Gazprom and CNPC signed a Cooperation agreement*, [www.gazprom.com](http://www.gazprom.com) (accessed: 01.11.2011).

<sup>11</sup> *Gazprom and CNPC sign Agreement on major terms and conditions for Russian gas supply to China*, [www.gazprom.com](http://www.gazprom.com) (accessed: 01.11.2011)

bargaining and prevented the signing from happening<sup>12</sup>. The parties resumed talks in December 2012 and are now hoping to finalise them by the end of 2013<sup>13</sup>. Negotiations with the ROK and Japan were conducted in a similar manner and are at a comparable stage.

Comprehensively, execution of the Russian gas export strategy's eastern dimension has been lacking a decision on the primary recipient of the fuel. This uncertainty has prevented the choice from being made whether to build new liquid natural gas (LNG) facilities or to lay down new pipelines. Due to financial constraints, implementing both options simultaneously is not viable. Furthermore, in contrast to the LNG, which is a more flexible export alternative, to start building a pipeline the final destination and end-consumers have to be previously determined. Well aware of these economic conditions, Russian authorities have concurrently been negotiating – without reaching any conclusion – not only with the three aforementioned states, but also with other developing countries in South-East Asia<sup>14</sup>. This strategy of keeping everyone in suspense and the *divide et impera* policy have thus far resulted in a failure to achieve the goal of export diversification through a significant increase of gas cooperation with the Asia-Pacific region, as was planned for Phase I.

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<sup>12</sup> L. Jakobson, P. Holtom, D. Knox, J. Peng, op.cit., pp. 33–35; S. Blank, Y. Kim, op.cit., pp. 412–413, B. Blanchard, *Russia, China fail to reach 30-year gas supply deal*, www.reuters.com (accessed: 02.01.2013).

<sup>13</sup> M. Akin, *Gazprom signals possible revival of talks with China*, www.reuters.com (accessed: 02.01.2013).

<sup>14</sup> Cf. *Speech by Alexey Miller, Chairman of the Gazprom Management Committee at the annual General Shareholders Meeting*, www.gazprom.com (accessed: 05.07.2011); *Gazprom seeks India deals, says Europe share to fall*, www.reuters.com (accessed: 02.01.2013).



#### 4. RUSSIAN POLICY TOWARDS THE CHANGING EUROPEAN ENERGY MARKET

In 2006 the European Commission (EC) issued *The Green Paper. A European Strategy for Sustainable, Competitive and Secure Energy*<sup>15</sup>, in which a basic framework and the principal directions of a new European energy policy were proposed. The document envisaged that a common, open and environmentally friendly energy market would be built where gas providers would have to vie for clients and security of supply would be ensured. This goal was supposed to be achieved through legal and financial instruments that would: bolster competitiveness by linking national gas systems *via* interconnectors, and by separation of extraction (upstream) and/or selling (downstream) gas business segments from piping activity (midstream) – a process commonly known as *unbundling*; increase renewables usage and improve energy effectiveness, which in turn should lower energy demand and thus help to accomplish ‘the sustainability’ aspect of the reform; enhance supply security by diversifying import routes and directions, and by developing cooperation with new gas-producers<sup>16</sup>.

The European gas market began to change not only as a consequence of the policy-makers’ decision, but also due to market factors. The financial crisis and the contraction of European economies both caused a decline in energy consumption by 10 per cent in the years 2008–2011. In addition to this smaller demand, the shale gas revolution in the US has resulted in a world gas glut and in the creation of free export capacities in the Middle

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<sup>15</sup> *Green Paper. A European Strategy For Sustainable, Competitive And Secure Energy [COM(2006) 105 final – unpublished in the Official Journal of the European Union, www.eur-lex.europa.eu (accessed: 25.02.2012).*

<sup>16</sup> G. Bahgat, *Europe’s energy security: challenges and opportunities*, “International Affairs” 2006, Vol. 82, No. 5, pp. 962–964; A. Paterek, *Rola organów i instytucji Unii Europejskiej w kształtowaniu polityki bezpieczeństwa energetycznego*, in: *Międzynarodowe bezpieczeństwo energetyczne w XXI wieku*, E. Cziomer (Ed.), Kraków 2008, pp. 282–289; K. Westphal, *Energy policy between multilateral governance and geopolitics: whither Europe?*, “Internationale politik und gesellschaft” 2006, No. 4, pp. 45–58.

East<sup>17</sup>, hence competition between gas-extracting countries for access to the European market has been on the rise, and a 16 per cent drop in the commodity's value in the EU has been recorded<sup>18</sup>. Moreover, because of the surge in LNG availability, a global gas market has emerged and pressure on producers has been growing to abandon long-term contracts with gas prices indexed to oil in favour of short-term arrangements with prices linked to the spot market, which would be an alternative more adaptable to the current demand<sup>19</sup>.

The new European energy policy and its implementation have been perceived by Russian authorities as a threat to the country's national and gas interests since, in their opinion, Russian companies would be disposed of – at least in some scope – their assets in Europe and the RF would lose energy leverage in talks with EU partners<sup>20</sup>. Thus, they have been trying to politicise the problem and to make it an issue of bilateral negotiations, and not an internal EU matter. As far as *unbundling* is concerned, the RF government suggested leaving out transnational gas pipelines from the regulations of the Third Energy Package. Consultations about the propo-

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<sup>17</sup> International Energy Agency, *World Energy Outlook 2010*, Paris 2010, pp. 195–196; *Gaz łupkowy – szanse i wyzwania dla Polski i Unii Europejskiej w świetle doświadczeń amerykańskich i rozwoju międzynarodowego rynku gazu*, E. Wyciszkwicz (Ed.), Warszawa 2011, pp. 12–13.

<sup>18</sup> Own elaboration based on data from *BP Statistical...*, pp. 23, 27.

<sup>19</sup> S.A. Gabriel, K.E. Rosendahl, R. Egging, H.G. Avetisyan, S. Siddiqui., *Cartelization in gas markets: Studying the potential for a "Gas OPEC"*, „Energy Economics” 2012, Vol. 34, No. 1, p. 137; H.V. Rogers, *The Impact of a Globalising Market on Future European Gas Supply and Pricing: The Importance of Asian Demand and North American Supply*, Oxford 2012, pp. 9–12, [www.oxfordenergy.org](http://www.oxfordenergy.org) (accessed: 12.01.2012).

<sup>20</sup> *Prime Minister Vladimir Putin and President of the European Commission José Manuel Barroso give a news conference following the meeting of the Russian government and the EU Commission*, [www.premier.gov.ru](http://www.premier.gov.ru) (accessed: 01.03.2011). The then Prime Minister V. Putin's assessment of the EU Third Energy Package, which introduced rules for the *unbundling* policy, was not entirely accurate and fair. Three forms for the *unbundling* were proposed: ownership unbundling, independent system operator and independent transmission operator. Only the first form requires a selling of assets by a vertically integrated company, but it was up to each EU Member State's decision as to which option would be chosen.

sition were conducted between March and October of 2011, but as neither side was willing to change the stance they were futile<sup>21</sup>.

The next attempt to internationalise the issue of European energy regulations and to force EU institutions to a political dialogue was undertaken in autumn of 2012, when the EC launched an investigation into *Gazprom's* suspected anticompetitive market practices in Central and South-Eastern Europe<sup>22</sup>. The Russian response to the inquiry was two-fold: as threats to divert gas export to the Asia-Pacific region and as an increase of the state's control over strategic companies, including *Gazprom*, and their foreign activities. The Presidential decree obligated the enterprises to gain government approval before either disclosing business information to foreign regulators, altering contracts or selling property abroad. Formal involvement of the Kremlin officials, in their mind, ought to transform the legal dispute of a supervising body and a company under investigation into political talks between equal subjects of international public law<sup>23</sup>.

Battles with the Third Energy Package and the *unbundling* policy have been fought by the Russian establishment not only at negotiation tables but also in courts. In March 2012 *Gazprom* brought a case to the arbitration tribunal in Hague under the UNCITRAL Rules against the Lithuanian government. This Baltic state had decided to implement a full ownership unbundling policy, which would force a vertically integrated energy company to sell its transportation assets in Lithuania. *Gazprom* representatives have claimed that the Lithuanian government, by threats of financial

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<sup>21</sup> V. Soldatkin, *Russia sets out proposals to EU on energy package*, [www.reuters.com](http://www.reuters.com) (accessed: 02.01.2013); D. Busvine, *Russia-EU energy talks hit dead end – minister*, [www.reuters.com](http://www.reuters.com) (accessed: 02.01.2013). Russian authorities, realising that it would be difficult to change the general rules of the Third Energy Package, have also been striving to obtain exclusions from particular regulation (e.g. third party access to pipeline capacity) for individual gas pipelines.

<sup>22</sup> *Antitrust: Commission opens proceedings against Gazprom*, [www.europa.eu](http://www.europa.eu) (accessed: 10.01.2013).

<sup>23</sup> C. Belton, A. Barker, J. Chaffin, *Kremlin shields Gazprom from EU probe*, [www.ft.com](http://www.ft.com) (accessed: 12.09.2012); V. Soldatkin, F.Y. Chee, *Kremlin enters EU-Gazprom row with strategic firm rules*, [www.reuters.com](http://www.reuters.com) (accessed: 14.09.2012); *Sergey Kupriyanov: Gazprom always abides by legal requirements of countries where it operates*, [www.gazprom.com](http://www.gazprom.com) (accessed: 12.09.2012).

sanctions and renationalisation of *Lietuvos Dujos*, a firm of which the Russian monopoly is a shareholder, had intimidated them into agreeing to an adverse division of the Lithuanian company and the sale of its mid-stream segment<sup>24</sup>.

The decision on implementing the South Stream project can be perceived as yet another element of the Russian strategy for defending its economic and political interests on the European gas market. This 2 430-kilometre long pipeline has been designed to carry 63 bcm/y of gas to consumers in Bulgaria, Serbia, Hungary, Slovenia and Italy. The construction costs are currently estimated at US 39 billion dollars<sup>25</sup>. The project is intended to diversify import routes from Russia to the EU and to create an alternative for gas transit through Ukraine, but it may also have a tremendous effect on the outlook for gas demand in Central and South-Eastern Europe. Should the South Stream be built, an economic justification for the Southern Energy Corridor, whose aim is to diversify import by connecting Caspian and Middle East gas deposits with the EU market, will be weakened. The official inauguration of the project's construction phase before all necessary permissions have been obtained and two years sooner than the actual works are planned to start should be read as an attempt to influence the decision-making process of the Azerbaijani Shah Deniz gas deposit's shareholders on the export route. Their choice, which is going to be made in mid-2013, will shape the Southern Energy Corridor and will be significant for the EU Central-European states' energy security<sup>26</sup>.

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<sup>24</sup> D. Pinchuk, N. Adomaitis, *Gazprom takes on Lithuania in EU policy test case*, www.reuters.com (accessed: 05.03.2012); *Gazprom seeks international arbitration against Lithuanian Government*, www.gazprom.com (accessed: 05.03.2012). These have not been the only arbitration proceedings between *Gazprom* and the Lithuanian government concerning *Lietuvos Dujos*. In a ruling from late July 2012, the Arbitration Court in Stockholm determined the extent for possible intervention in the company's internal matters and the ways of conducting business by the court in Vilnius at the instance of the Lithuanian Energy Ministry. Both sides claimed that they had won the case and that the adjudication was favourable for them. Cf. R. Griffin, *Lithuania, Gazprom at odds over arbitration ruling on Lietuvos Dujos*, www.platts.com (accessed: 02.01.2013).

<sup>25</sup> *Gazprom sees South Stream costing \$39 bln*, www.reuters.com (accessed: 29.01.2013).

<sup>26</sup> Z. Baran, *Security Aspects of the South Stream Project*, 2008, pp. 9–11, www.hudson.org (accessed: 01.11.2011); P. Baev, I. Øverland, *The South Stream versus Nabucco pipeline*

Price discounts awarded by *Gazprom* to its European partners have become an important part of the strategy to preserve the RF's role as the EU's dominant gas supplier. The Russian monopoly has agreed to retroactively lower prices for its biggest consumers, such as *E. ON* and *RWE* in Germany, Italy's *ENI* and *Edison* or the Polish *PGNiG*. Consequently, *Gazprom* had to reimburse US 4.5 billion dollars in the first three quarters of 2012, and a similar figure has been anticipated in the company's 2013 budget<sup>27</sup>. These moves have been aimed at lessening consumers' pressure on the company to change the contracts' model and to discard long-term agreements with oil-linked prices for short-term arrangements as well as for gas value in spot markets. The activities of *Gazprom*'s competitors, for instance *Statoil*, which have increased the share of spot prices in their contracts, are not making this task easy<sup>28</sup>.

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*race: geopolitical and economic (ir)rationalities and political stakes in mega-projects*, „International Affairs” 2010, Vol. 86, No. 5, pp. 1088–1090; Sz. Kardaś, E. Paszyc, *Za wszelką cenę: Rosja rozpoczyna budowę South Streamu*, „Komentarze OSW” 2012, No. 98; p. 1–7, [www.osw.waw.pl](http://www.osw.waw.pl) (accessed: 11.12.2012); A. Anishchuk, V. Soldatkin, *European energy firms back Gazprom at pipeline ceremony*, [www.reuters.com](http://www.reuters.com) (accessed: 07.12.2012).

<sup>27</sup> M. Akin, M. Goettig, *Poland deal: Gazprom's last Europe gas price battle settled*, [www.reuters.com](http://www.reuters.com) (accessed: 02.01.2013); *Gazprom reports its financial results under IFRS for the nine months ended September 30, 2012*, [www.gazprom.com](http://www.gazprom.com) (accessed: 17.01.2013); O. Astakhova, V. Soldatkin, *Gazprom plans \$4.7 bln refund to European customers in 2013*, [www.reuters.com](http://www.reuters.com) (accessed: 09.02.2013). Researchers from the Netherlands prove in a theoretical model that when competing with profit-oriented suppliers, politically-motivated *Gazprom* has an incentive to devalue its gas price in order to increase its share in the EU market and in this way to support Russian foreign policy. Building the Nord and South Stream pipelines and discounts awarded to European consumers are empirical evidence for this hypothesis. Cf. T. Jansen, A. van Lier, A. van Witteloostuijn, T.B. von Ochsse, *A modified Cournot model of the natural gas market in the European Union: Mixed-motives delegation in a politicized environment*, „Energy Policy” 2012, Vol. 41, pp. 280–285.

<sup>28</sup> H. Gloystein, *Norway weakens Russia's grip on European gas market*, [www.reuters.com](http://www.reuters.com) (accessed: 15.02.2013). The Oxford Institute for Energy Studies' researchers have showed theoretical and empirical evidence proving the hypothesis that the market has been heading towards the hub-based gas pricing model. Therefore, Russian attempts to prevent this change can be perceived as pointless and would only delay the inevitable. J. Stern, H. Rogers, *The Transition To Hub-Based Gas Pricing In Continental Europe: A Response to Sergei Komlev of Gazprom Export*, „Oxford Energy Comment” February 2013, [www.oxfordenergy.org](http://www.oxfordenergy.org) (accessed: 12.02.2013).

## 5. MODEL OF THE RUSSO-EUROPEAN GAS COOPERATION

In accordance with Russian authorities' declarations, shifts in the EU energy policy must have resulted in a significant increase of the RF's gas cooperation with the Asia-Pacific region. Should this be accurate then the policy of defending the Russian position on the European energy market through, e.g. laying new pipelines to the EU, ought to be interpreted as irrational behaviour. But this is a fallacy arising from assumptions that the EU gas market is homogeneous, that all Member States are identically dependent on gas import from the RF and, therefore, are all in the same degree interested in collaborating with non-Russian gas exporters. In fact, in its energy dimension the EU is a set of 27 separate countries which independently define their energy policy and balance, and do so under diverse determinants, which leads to, for example, different approaches to gas cooperation with the RF<sup>29</sup>.

With the purpose of correctly analysing the impact of the European gas market's evolution on the Russian gas export strategy, a new model of repeated game was created in which three players are participating: Russia (as a supplier) and two types of European states (as consumers). In line with Pierre Noël's research<sup>30</sup>, European countries are divided into: states highly dependent on Russian gas import (HD), and countries with a medium or low share of gas from Russia in their total gas-consumption balance (LD). The first group consists of countries importing above 50 per cent of fuel consumed yearly from the RF. They are primarily new EU Member States in Central and South-Eastern Europe (except for Romania, which primarily uses domestically-extracted gas), and also Austria, Finland and Greece. All other countries, mainly EU Member States prior to 2004, belong to the latter group.

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<sup>29</sup> E. Wyciszkievicz, *Perspektywy wspólnej polityki bezpieczeństwa energetycznego Unii Europejskiej*, „Polski Przegląd Dyplomatyczny” 2006, No. 1, pp. 69–70; A. Paterek, op.cit., p. 290.

<sup>30</sup> P. Noël, *Beyond dependence: how to deal with Russian gas*, „European Council on Foreign Relations Policy Brief” 2008, No. 9.

Each player has two available strategies: to cooperate with the supplier/consumers or to develop contacts with new partners. For financial and technical reasons the Russian energy sector is unable, on its own, to notably increase export simultaneously in the western and eastern direction<sup>31</sup>, as Russian authorities must choose to either deepen ties with European states (EE) or collaborate with new consumers in the Asia-Pacific region (EA). European states, both HD and LD, have to decide to either cooperate with Russia (CR) or to increase import from other gas-producing countries (CA). The former strategy assumes a more liberal attitude to RF energy presence on the European gas market, the latter supposes strict execution of EU regulations, even if this would cause tensions in relations with the RF elites.

A primary variable in the model is the chosen strategy's effectiveness (+ei), which represents energy security and stability of gas flows. The strategies are successful if the RF's willingness to export gas in the western direction intersects with either the LD or HD countries' decision to import gas from Russia. The model assumes that, should Russia choose the EA strategy or either the HD or LD countries would opt for the CA strategy,

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<sup>31</sup> Previous studies on the Russian energy policy indicate that there has been a risk of gas shortages due to underinvestment in new gas deposits development and an export obligation exceeding the difference between production and domestic consumption. Although the global financial crisis may have postponed conclusions from those forecasts, it did not completely eradicate the threat. Therefore, the assumption about the Russian gas industry's lack of means to simultaneously increase export to European and Asian consumers should be regarded as highly possible. Cf. E. Palazuelos, R Ferna, *The future of Russian gas exports to East Asia: Feasibility and market implications*, „Futures” 2011, Vol. 43, pp. 1069–1081; V. Milov, L.L. Coburn, I. Danchenko, *Russia's Energy Policy, 1992–2005*, „Eurasian Geography and Economics” 2006, Vol. 47, No. 3, pp. 285–313; A. Riley, *The Coming Russian Gas Deficit: consequences and solutions*, „Centre for European Policy Studies, Policy Brief” 2006, No. 116, [www.ceps.eu](http://www.ceps.eu) (accessed: 14.03.2013); D Simmons, I Murray, *Russian Gas: will there be enough investment?*, „Russian Analytical Digest” 2007, No. 27, pp. 2–5, [www.css.ethz.ch](http://www.css.ethz.ch) (accessed: 01.11.2011); E. Wyciszkievicz, *Rosyjski sektor naftowo-gazowy – uwarunkowania wewnętrzne i perspektywy rozwoju*, in: *Geopolityka rurociągów. Współzależność energetyczna a stosunki międzypaństwowe na obszarze postsowiecki*, E. Wyciszkievicz (Ed.), Warszawa 2008, p. 27; J. Stern, *Future Gas Production in Russia: is the concern about lack of investment justified?*, Oxford 2009, [www.oxfordenergy.org](http://www.oxfordenergy.org) (accessed: 01.11.2011).

the demand would be met with appropriate supply and therefore the strategy would be regarded as effective. When a player’s strategy is considered a failure, i.e. it is not met with the expected response of other partakers, then cost (-ci) occurs as a consequence of taking the wrong decision, thus resulting in either gas shortages (with reference to the LD or HD countries) or with no buyers for the fuel (in the case of the RF).

The next variable in the model are the opportunity costs (-oi). Should the RF authorities decide to export gas to the Asia-Pacific region and, simultaneously, European countries are eager to buy Russian gas, then by virtue of price differences between Asian and European gas markets Russia would earn less than it could have. European states would experience opportunity costs if either type sacrificed its gas supplies’ diversification interests in order to cooperate with the other.

Should the HD and LD countries coordinate their energy policies, they would benefit (+si) from the successful implementation of the EU energy strategy and the creation of a common European gas market. If the consumers are unable to do this, they will suffer an additional cost (-fi) that embodies the failure of the concept as proposed by the EC.

If the HD states chose the CA strategy or the Russian authorities decided that gas should be sent to the East, the country would experience a loss (-ti) of energy as a tool in political and economic bargains with the European partners (the so-called energy weapon). Should the LD countries opt for the CR strategy and, simultaneously, RF chose to export gas to Europe, Russia would make a profit (+wi) representing the gain of energy leverage in negotiations with the EU and/or its Member States.

In accordance with the rules, the game’s outcomes are presented in Matrix 1.

**Matrix 1.**

RF – EE				HD	
				CA	CR
LD	CA	$-c_1 - t_1, +e_1 - o_1 + s_1, +e_1 + s_1$	$+e_2, +e_2 - o_2 - f_2, +e_2 - o_2 - f_2$		
	CR	$+e_3 + w_3 - t_3, +e_3 - f_3, +e_3 - f_3$	$+e_4 + w_4, +e_4 + s_4, +e_4 - o_4 + s_4$		



RF - EA			
X		HD	
		CA	CR
LD	CA	$+e_5 - t_5, +e_5 - o_5 + s_5, +e_5 + s_5$	$+e_6 - o_6 - t_6, +e_6 - o_6 - f_6, -c_6 - o_6 - f_6$
	CR	$+e_7 - o_7 - t_7, -c_7 - f_7, +e_7 - f_7$	$+e_8 - o_8 - t_8, -c_8 + s_8, -c_8 - o_8 + s_8$

Order of the payments (RF, LD, HD)

The establishment of RF considers energy resources as an instrument of a geopolitical influence in the array of foreign policy tools. For that reason, in order to fully utilise political power springing from gas abundance and by that means successfully protecting national interests abroad, the Russian authorities' top priority is to have a dominating position in the import balance of each state that the fuel is piped to. Preference for export to European markets, for which Russia is already a source but not a prevailing one, of consumed gas over development of new energy links to East-Asian markets is a ramification of this approach. The profitability of gas export is the next position in the Russian hierarchy of importance. Income reaped from trade in energy resources is a significant component of the national budget, and thus it plays a stabilising role in Russian political and social systems. This feature of the RF energy policy results in a preference for export to open markets in the EU, where gas prices are high, above cooperation with highly diversified Asian-Pacific markets with frequently internally regulated prices<sup>32</sup>.

For the European decision-makers, both in the HD and LD countries, the most important objective is energy security. But, due to dissimilarities in energy mixes, this community of interests ends when it comes to meth-

<sup>32</sup> *The Foreign Policy Concept of the Russian Federation approved by Dmitriy A. Medvedev, President of the Russian Federation on 12 July 2008*, [www.mid.ru](http://www.mid.ru) (accessed: 13.05.2010); E. Wyciszkiec, *Rosyjski sektor...*, pp. 7–8; B. Molo, *Polityka bezpieczeństwa energetycznego Federacji Rosyjskiej*, in: *Międzynarodowe bezpieczeństwo energetyczne w XXI wieku*, E. Cziomer (Ed.), Kraków 2008, pp. 121–122; K. Smith Stegen, *Deconstructing the “energy weapon”: Russia’s threat to Europe as case study*, „Energy Policy” 2011, Vol. 39, pp. 6506–6510.

ods of import diversification. For states that are highly dependent on gas originating from the RF the best option is to collaborate with non-Russian gas producers and to curb the Russian presence on the European gas market. The opposite solution is preferred by countries importing small or medium volumes of Russian gas. The difference has to be overcome and interests reconciled should the HD and LD states want to achieve a goal nearly as important as that of energy security, namely, energy solidarity through the EU's common energy policy implementation and European gas market integration. Success in this regard, no matter who would have to sacrifice their energy interests and which option would eventually win, manifested in the *speaking with one voice on energy issues* approach, would make the bargaining position of the EU and individual countries stronger as it would be one of two of the world's biggest gas markets. Moreover, states could diversify import *via* their neighbours' energy systems and access to their import infrastructure. The bonus to these tangible gains would be international recognition for the EU for successful cooperation and coordination of multiple national energy policies.

In Matrix 2 the number representing the position in the players' preferences orderings (not a utility) is assigned to each outcome from Matrix 1.

Matrix 2.

RF – EE			
		HD	
		CA	CR
	LD	CA	1, <u>6</u> , <u>7</u>
		CR	<u>7</u> , 5, 4
RF – EA			
		HD	
		CA	CR
	LD	CA	<u>5</u> , <u>7</u> , <u>8</u>
		CR	3, 1, <u>5</u>

Order of the payments (RF, LD, HD). Best responses. Nash equilibria.

The game solved by the best respond method has two Nash equilibria in pure strategies that are marked in Matrix 2. Another equilibrium could also be set in mixed strategies, but because it would be impossible to precisely determine the utilities of particular outcomes, the author was unable to establish it. The game has no Pareto-dominating Nash equilibrium.

An analysis of the balance points leads to the conclusion that players are better off should they all coordinate their strategies and simultaneously decide to either collaborate (choose strategies EE and CR) or develop gas contacts with new partners (strategies EA and CA). The former is a better option for the RF and LD countries, the latter – for the HD states. From that an additional inference concerning preferences of both types of European states can be drawn. Their preferences orderings make the game similar to a ‘Battle-of-the-Sexes’ game, in which two players would like to cooperate (in this instance in energy issues) but they differ in the optimal solution (the most advantageous gas supplier).

The third conclusion concerns the outcome of the game up to now. Prolonging implementation of the plan to diversify Russian gas export to the Asia-Pacific region and decisions to lay the Nord and South Stream pipelines, i.e. projects in which the RF and both types of European states are participating, imply that to date the game has ended in the (EE, CR, CR) strategy profile. This has been possible for two reasons: first of all, the repeated character of the game and the long-standing political and economic (and also gas) contacts between Russia and the EU have resulted in an understanding of the partner’s intentions and interests as well as in mutual confidence in rational behaviour. Secondly, by an intensive energy dialogue with Western governments and by concessions to European companies, RF authorities have showed their commitment to the EU gas market, which has facilitated gas cooperation with countries dependent on Russian fuel to a small or medium extent. This, in turn, forces highly dependent states, which in this situation can expect gas cooperation between RF and LD, to choose their less favourable but – under the circumstances – more rational strategy and to take part in Russian projects and, therefore, to hinder their own gas diversification plans.

The last inference from the model analysis concerns the (EA, CA, CA) strategy profile. Because it is a Nash equilibrium, Russian threats to direct

new gas export capacities to the Asia-Pacific region are credible and as such must be taken seriously. The reason why this scenario has not yet been fulfilled can be found, among others, in the evolution of the European gas market and the proposed shifts in the EU energy policy. Due to the danger of the RF's ability to use energy as a foreign policy tool, in addition to lower prices than on European markets, the changes have created an additional cost for Russian cooperation with East Asian states and thereby, political profitability of the {EA} strategy has declined. Temporary abandonment of plans to boost gas cooperation with the Asia-Pacific region in favour of energy collaboration with European states and the demonstration of adherence to that market allows RF authorities to influence changes and to delay them. A return to Russian diversification plans can occur when: (1) the transformation will be inevitable, or (2) less harmful for Russian interests, or (3) cooperation with the RF due to e.g. EC sanctions will cause additional detriments to EU states, or (4) the condition for eastbound export will be relatively more politically and economically beneficial for Russia.

## 6. CONCLUSIONS

Market integration and liberalisation as well as enhanced competition between gas suppliers for access to the EU market, i.e. processes that entail an evolution of energy relations in the Europe, have been perceived by Russian elites as a threat to the national interests. In this situation, due to financial and technical constraints, RF officials had to choose to either export Russian resources westbound with the hope that this would prevent changes from taking place or to accept the transformation and adapt to it by developing gas cooperation with the Asia-Pacific region.

Price discounts for *Gazprom's* European clients and redundant projects of the new gas pipelines to Europe, which would increase Russian currently under-utilised export capacities to the EU by 50 per cent, and at the same time an adamant position in bargains with East Asian potential customers and the lack of a decision on a strategic partner for gas cooperation in Asia are all evidence that so far, in spite of the *Russian Energy Strategy's* principles, RF authorities have decided to focus on the European

gas market. Adjournment of the gas export diversification plans has been a necessary price for the opportunity to defend Russian geopolitical and economic interests there. By doing so the leaders are behaving rationally and have chosen a strategy that would yield the best outcome.

An analysis of the Russian gas export strategy model indicates that for the RF, under the current circumstances, developing new eastbound transmission capacities is the best policy only if European countries would be unwilling to import gas from Russia and if the adverse character of the European gas market's transformation would be inevitable. But EU Member States vary in their security of supply interests, hence this scenario might be precluded. Should one assume that the shape of the European energy relations is not an outcome of the consumers' unilateral decision but a result of interaction between gas producers and the fuel consumers, then RF authorities have been induced by changes to actively cooperate with EU countries so as to create a more favourable (or at least less harmful) European energy order. Thus, by creating additional costs in the form of a peril for Russian ability to use gas as a leverage in bargains with EU and its Member States, evolution of the European market is reducing the relative geopolitical attractiveness of energy cooperation with the Asia-Pacific region and, therefore, in addition to other disadvantages it is having a detrimental effect on the process of implementing the RF's export diversification policy.

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