

THE IMPORTANCE OF THE EUROPEAN GAS MARKET FOR GAS SUPPLIERS – GAZPROM MODEL -

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Abstract:

Energy acquires a strategic and international attention, the European Union is the third largest energy consumer in the world by volume, and over fifty percent of that energy is imported outside their zone of exchange. It is to say that EU's most important gas supplies comes from Russia mainly from Gazprom. Therefore, Russia needs the European energy market for its energy exports. This article will deconstruct Gazprom's strategy within the case study of the European exchanges and the implanted tools to guarantee and maintain the shares growth in light of the increasing competition of the European gas market.

Keywords: energy security , EU's gas market , gas suppliers , Gazprom company, LNG .

JEL Classification Codes: F13 , F52 ,Q34 , Q41.

Résumé:

L'énergie acquiert une attention stratégique et internationale, l'UE est le troisième plus grand consommateur d'énergie au monde en volume, et plus de cinquante pour cent de cette énergie est importée en dehors de sa zone d'échange. C'est dire que les plus importants approvisionnements en gaz de l'UE proviennent de Russie, par sa société Gazprom. Par conséquent, la Russie a besoin du marché européen de l'énergie pour exporter sa production . Cet article porte sur la détermination de la stratégie de Gazprom afin de maintenir et augmenter ses parts et maximiser ses revenus face à la concurrence croissante du marché gazier européen.

Mots clés: sécurité énergétique, marché gazier de l'UE, fournisseurs de gaz , société Gazprom, GNL.

Codes de classification JEL: F13 , F52 ,Q34 , Q41.

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1- Introduction:

The energy file is a fundamental issue between Europe and Russia . An important number of the European countries depend heavily on the Russian energy at a rate surpassing 30% of their total needs . It is to say that some East European countries completely depend on munition imports, an energy dependency reaching almost 100%. One sixth of the Russian raw national income is related to energy exchanges with the European Union (World Energy Council , 2015). In general the Russian economy is very dependent on its subordination energy materials exports to the European market, which represents a percentage of not less than (70%). Furthermore if we take into account gas and other power products it attains up to 90% (Abdel Hamid, 2009: p45). The latter is the Russian driver to seeks the preservation of its energy share hold in the European market, especially with gas, through Gazprom⁽¹⁾ . An implementation of a market strategy to ensure maintaining its position and maximizing its revenues in the light of the intense competition between gas suppliers and the arrival of the American liquefied natural gas (LNG)⁽²⁾. On this basis, the following problem was raised:

- What is the importance of the European gas market for gas suppliers, especially Gazprom? And what is its strategy partaken to maintain its share in this market?

To answer this problem, the following hypothesis is put forward:

¹- Gazprom: It is a Russian national company and it is considered the largest producer of gas in the world that explores, extracts, produces, transfers and sells gas to all importers, as it produces about 20% of the global gross product, and also controls the largest gas reserves in the world, as its gas reserves in 2019 were estimated at 24 4 thousand billion m3, which represents 19.1% of the global gas reserve, and it owns and operates the longest pipeline network to transport natural gas in the world, with a length of 150 thousand km, and its revenues in 2019 reached (111.6 billion dollars). (According to Gazprom statistics, 2020).

²- Liquefied natural gas (LNG): it is shale gas, which is similar to natural gas. It has been converted from its gaseous state - which it has in nature - to a liquid state, by cooling it to 162 degrees Celsius below zero. It mainly consists of methane, and after liquefying the gas comes the stage of storing and transporting it to the market, and this stage calls for maintaining the temperature of the liquefied gas at minus 160 degrees Celsius, so that it remains in liquid form and does not turn into its original gaseous state. LNG is transported through specially designed tankers, and after the arrival of the LNG shipments to their final destination (ports of import), it is emptied into tanks, then it is returned to the gaseous state by raising its temperature (heating it), and pumping it into pipes for distribution To be used.(Michel Gay , « *Le gaz naturel liquéfié, rempart contre la Russie* » <https://www.contrepoints.org/2017/12/12/305305-gaz-naturel-liquefie-rempart-contre-russie>)

- Russia will block alternative European energy projects from its lands, by challenging any attempts to build alternative pipelines without Russia .
- Russia may also keep competitors out of the European energy market via price reduction.

This will be answered through the following axes:

- First / Euro-Russian energy relationship.
- Second / competition in the European energy market.
- Third / Gazprom's defense policy for its shares in the European energy market.

2- The Euro-Russian energy relationship between competition and conflict :

The relationship between Russia and the European Union since the Cold War in terms of their exchanges in the energy sector is propitious. However, the two sides are at odds in the political arena. Europe relies on Russia as a source of oil and gas, as being its first supplier, Norway comes second then Algeria in the third place. It covers about a third of its oil needs and more than 50% of the gas needs. Russia is a "Euro-Asian" country that belongs to the European community as declared by President Putin. It is also linked with vital and strategic relations with the European countries that is striving to consolidate and solidify it in a way that fulfills the interests of both parties. Germany is the largest European buyer of Russian oil and gas as well as eastern Europe, whose countries rely mainly on Russian oil and gas supplies. The latter's gas shares are expected to cover drastically over 2/3rd of Europe by the end of 2021 (Russian International Affairs Council, 2013: p49).

The geo-strategic importance of Russian hydrocarbons is constantly growing when we know that the Norwegian, Dutch, and British North Sea reserves of fuels are in a continuous decline, while Russian reserves remains significant. The data indicate that the oil and gas reserves on which the European Union depends will continue in the long term, ie: between the next 50 to 100 years, while steel reserves will last for more than two centuries (Medish et David , 2006: p13) .

By 2030 import rates are expected to expand to reach 60% (Majid Hamzah, June 2014 : p32).

Nevertheless, in 2006 and 2009 Russian-Ukrainian relations have witnessed violent shocks which led to the first disruption of the Russian gas supply to Europe. The high levels of the European dependence on Russian gas imports in correlation with the last Ukrainian crisis of 2014 came to constitute an important warning cry to Europe's decision-makers. The debate is sparking anew on the issue of securing energy supplies in Europe. Despite the fact that the Russian gas cutoff is being limited to Ukraine, its consequences have begun to appear in other European countries. 49% of Russian gas exports to Europe used to proceed through Ukraine at the time, Russia did not only inflatect the prices of its gas exports to Ukraine but it also threatened a complete halt of delivery if Ukraine did not pay off its debts, this crisis led to tension in the Russian-European relations, (Deutsche Welle , 02/01/2006) .

That incident shows the extent of Europe's dependency on Russia in the sector of energy and its effect on the European economy , if it stops necessary energy supplies. President Putin denied at the time Moscow's planning to reduce its energy exports to the European market and confirmed that Europe is the most genuine and suitable partner to Russia. Since that time, Europe's dependency on gas imports continued to grow gradually, while Russia currently accounts for about 37% of Europe's total imports of this vital material. Europe seeks to increase its share to 40% due to the decline in its production and the low cost of the Russian gas extraction. Gazprom's share in the European market varies according to regions, the northwest market is the most liquid, mature and competitive market.

Table N° 01: The dependency of some European countries to Russian gas

Countries	The size imported from Russia is in billion m3, in 2014.	Russian imports / Total imports%	Russian imports / consumption%
Germany	40.3	63.8	56.8
Austria	4.0	51.9	51.2
Belgium	9.9	67.3	67.3
Bulgaria	2.8	100	100

Estonia	0.4	100	100
Finland	3.1	100	100
France	7.6	22	21.2
Greece	1.7	73.9	63
Italy	21.7	42.2	38.2
Lithuania	2.5	100	100
Hungary	4.5	64.3	64.3
Poland	9.1	55.8	55.8
Czech Republic	8.0	75.2	
Slovakia	4.4	100	100
United Kingdom	15.5	51	23.2

Source: Gazprom, Rapport 2015, BP Energy statistical review, 2015

In the light of this chronic , dependence of European Union on the Russian energy resources, the European Union has presented many proposals and alternative projects to reduce the severe dependency and market mapping to reduce the role of Gazprom in gas supply. The European Commission prepared within The second of February 2015 a draft for the new strategy that aims to reduce its dependence on importing energy sources, especially from Russia, by reducing energy demand and achieving efficiency in its use. Hence, diversifying its supply routes within the continent and expanding their energy resources especially renewables through the implementation of the energy security strategy at borders and energy supply security. A good number of European decision-makers have shown strong support for such initiatives, they are looking forward to establishing a European energy union for the next 15 years. The European Energy Union work to counter dependency, ensure supply, sustainability, and provide competitiveness for European enterprises (Ibrahim Mohamed , 28/02/2015).

The paper states that ensuring European energy security requires the orientation towards other sources from Central Asia and Algeria, in addition to importing liquefied natural gas from the United States of America and Qatar.

3- Competition in the European gas market:

The European Union is looking to increase its natural gas demands as it is one of the increasingly important resource and a source of clean energy. According to the latest World Energy Outlook report 2018, it is expected that European demands for gas will continue to rise until 2040 consequently the demands for its imports. The necessity to diversify its gas sources is increasing, historically imports were dominated by 3 main suppliers: Russia through Gazprom, Norway through Statoil and Algeria through Sonatrach (Boussena et Locatelli , 1er trimestre 2017: p10). Recent years have been characterized by the entry of new suppliers of liquefied natural gas to the European energy market, namely Qatar(Qatargas) and the United States of America , resulting competition in this energy market has increased remarkably.

3-1. Norway:

Norway is the second largest supplier of gas to Europe after Russia, it acquires enormous reserves which allows it to be one of the largest producers of oil and gas in The region with reserves estimated to about 8.5 billion barrels of oil and 1,500 million m³ of natural gas in 2019, according to BP magazine (BP , 2020: p 14 - 32) . The development of these reserves over the past two decades has eroded Norway's reserves, as they have declined from 2,500 billion m³ to less than 1,500 billion m³ of natural gas in 2019.

According to recent statistics, the Norwegian gas fields are going to depletion, except for the "Troll" field, which can produce 35 billion cubic meters per annum. The limited capacity of the Norwegian pipelines are limiting the production boost within the European Market (Al-Araby Al-Jadeed ,01/27/2019) . Norwegian exports to Europe in 2019 were 109.1 billion m³ of natural gas and 5.9 billion m³ of liquefied natural gas (GNL).

3-2. Algeria:

Algeria is considered as the third supplier to Europe after Russia and Norway respectively, with quantities that reached more than 36 billion

cubic meters last year 2019 according to official figures by "Sonatrach" (El Khabar newspaper , 11/02/2020) . The Algerian reserves were estimated to about 12.2 billion barrels of oil, and 4300 billion cubic meters of natural gas in 2019 according to BP magazine (BP, 2020: p14 - 32). The total shale gas reserves are estimated at 20 trillion cubic meter they are ranked as the third reserve worldwide. <Algeria exported 21.4 billion cubic meters of natural gas to Europe; While its exports of liquefied natural gas (LNG) reached 15.2 billion m³ in 2019 (BP, 2020: p 42 - 43) >.

Algeria is linked to Europe by three pipelines crossing the Mediterranean; the first one is passing through Tunisia then at the Italian island of Sicily; the second pipe is crossing the Mediterranean from the Moroccan territory and landing in Spain; the third one transit via "Almeria" southern Spain.

Algeria signed contracts to renew gas exports to most of its European partners for periods ranging from 5 to 10 years, naming Turkey, Spain, Italy, France and Portugal between 2018 and 2019. It began to introduce amendments to its marketing strategy of gas exports in Europe and beyond since 2018, as Sonatrach announced its intention to gradually abandon long-term gas marketing contracts that were reduced from 25 to 20 years to 10 years contract as a maximum. Sonatrach signed a contract to renew the contracts for the supply of gas to the Spanish company "Nature" for a period of 10 years, starting in 2019 with quantities estimated at 8 billion cubic meters annually. In the same year, Sonatrach renewed the contracts of its gas supplies to Italy for each of "Eni" company for a period of 10 years, with quantities reaching 10 billion cubic meters per year, and "Inal" for eight years with a capacity of 3billion cubic meters annually.

The Italian company "Edison" agreed on importing Algerian gas for 8 years starting from 2020, with an estimated amount of one billion cubic meters each year. The contract renewal also includes Portugal, through "Ghalib" company, which will import Algerian gas for 8 years with 3 billion cubic meters annually.

The French "Engie" followed the example of the rest of Sonatrach's partners in Europe, as in November 2019 it renewed the contracts to import liquefied gas from Algeria for a period of 4 years, renewable, with quantities estimated at 1.7 billion cubic meters a year. The contract to

supply the French company "Engie" with natural gas via pipelines through Italy or Spain was also renewed for a period of 3 years, with quantities reaching 500 million cubic meters annually.

3-3. Qatar:

Qatar is one of the top rich countries in primary energy resources, currently it is considered the largest exporter of liquefied natural gas (GNL), the second exporter of natural gas, and the fourth producer of dry natural gas globally . It is also ranked the third in terms of its proven natural gas reserves were estimated at 24,700 billion m³ in 2019 (equivalent to nearly twice the reserves of the United States of America). Gas production in Qatar has tripled, moving from 51 billion m³ in 2006 to 178.1 billion m³ in 2019 (BP, 2020: p 32). The North Field is considered the most important field for gas production in Qatar, Qatar is highly dependent on gas liquefaction units for export, and it is currently the first in the world in terms of liquefaction capabilities of natural gas. The Kingdom of Qatar has become in a suitable position to play an influential role in providing energy to the European Union, and this did not threaten Russia and did not affect its huge share as an exporter in the oil market, there is no potential possibility that Europe will replace Russia with Qatar as a major supplier of natural gas. However, Qatar can help in reducing Europe's dependency on the Russian energy resources. Qatar entered the European energy market in force to compete rigorously with the rest of the countries that have been working for many years to meet European demands in this sector.

3-4. United States of America:

The United States is the first country in the world in the production of natural gas, it was first made clear in 2012, when it produced about 95% of its gas needs and imported only 5% from Canada by resorting to hydraulic fracturing of shale gas, where it became expected to achieve self-sufficiency. From him in 2021(Aoulwi , 2015: p 217).

The United States of America is considered one of the new suppliers of shale gas after being for years a consumer. The US Energy Information Agency (EIA) estimates that the total reserves of the United States of America from shale gas are estimated at 19 trillion cubic meters, and it comes in the fourth place worldwide. The American production of natural gas amounted to 920.9 billion cubic meters in 2019 (BP Statistical , 2020 : p34) , directed to the domestic market and that the ability to

export the American product of LNG will increase from 22.7 billion cubic meters of natural gas in 2015 to reach 66 billion cubic meters in the period between 2018-2020 .

In 2017, the United States of America became a natural gas exporter for the first time, and after 60 years, the Trump administration aimed to export more liquefied natural gas (GNL) to the European Union. According to "CF International" for global investments, it is expected that the value of total US exports of liquefied natural gas by 2050 will reach 716 billion dollars.

In November 2018, the Polish state energy company, BG AG, and the US energy company, Generator, reached an agreement providing for the US exportation of LNG to Poland for a period of 24 years.

According to data published by the Russian agency TASS, the US supply of liquefied natural gas to Europe in 2018 amounted to 2.7 million tons, or about 24% of the US LNG, compared to 10% in 2017 with the European Commission expecting a doubling of the state exports by 2022. The United States of America is seeking to reduce the prices of liquefied natural gas, which is known to be high compared to the prices of other suppliers such as Russia. The President of the European Commission, Jean-Claude Juncker and President Donald Trump have agreed to strengthen strategic cooperations between the United States and the European Union especially in the field of energy . Juncker promised the union would import more gas from America. Europe believes that if US gas were priced on a competitive basis, it could play an increasing role in the energy supply of European countries.

4 - Gazprom's defense policy for its shares in the European energy market :

The European market witnessed several adjustments and the entry of new suppliers in the arena which prompted Gazprom to develop its strategy to support its competitiveness in the European energy market, and to maintain the corporation's share and increase revenues in correlation to its exploitation of the comparative advantages that distinguish Russia from other suppliers, namely:

- Geographical proximity to the European market in addition to the infrastructure (gas pipelines) which has a large transport capacity estimated at 244 billion m³ through 3 main export routes through

Ukraine via Belarus (IYamal), and via "Nord Stream I and II", added to it. Bleu Stream "through the Black Sea (Boussena et Locatelli , 2017: p 15).

- Low production costs.
- Delivery capacity surplus.

Gazprom's strategy in its relation with the European Union can be summarized as the following:

1. Gradual penetration within the internal markets of the European Union to expand its activities.
2. A strategy for gradual acquisition of company shares, and management and control of the gas pipeline network in transit countries (Locatelli , Février 2008: p 13 – 24) .
3. Supporting the country's position in the international community in the field of energy.
4. Reliance on long-term contracts in order to regain competitiveness by reducing prices and maximizing their income in the long run.
5. Diversification of transport pipelines and liquefied gas projects (such as the Nord Stream II project, which transports gas from Russia to Germany, the largest importer of gas in Europe).
6. Lower their prices to exclude the USA out of the European market.

4-1. The penetration into the energy sector in a number of European countries and the expansion of the Russian active presence through several deals, the most important of which are:

A memorandum of understanding was signed with the German company "Wintershall" in April 2005 in order to explore new gas fields in Russian lands. The German company gets 50% in return for that. Gazprom benefits from direct access to gas markets in Germany (Bin Khalif, 2009 : p 125) .

It signed an agreement in mid-November 2006 with the number one institution in the Italian hydrocarbon sector "Eni" (ENI) to invest in the Russian oil and gas fields, in exchange for the opening of the Italian energy market with Gazprom.

It did equally partook with France, where it made an agreement with the French Gas Company (GAZ de France) at the end of November 2006 to open access to Gazprom into the French market and distribute gas to industrialists, while it obtains supply with Russian gas until 2030 (Bayou et Verluise , février 2007 : p 56).

The steps taken by Gazprom in the purchase of the British company “Centrica” provides gas to more than 12 million consumers and one million industrial enterprises in Britain. At the same time buying 7% of the capital of the Portuguese company” Galp Energia” obtained the right to supply 8 billion cubic meters of Algerian gas to Europe, through the "Med-Gas" pipeline, which will transport Algerian gas to Portugal and France (Al-Sheikh, April 2014: p 25) .

The Russian company "Gazprom" and the German energy giant "E.ON" signed an agreement in June 2009 on the exchange of assets in the field of gas extraction and trade in natural gas. The agreement, which was signed on the sidelines of the International Economic Forum in St. Petersburg, stipulates that Gazprom will acquire 49% of the shares of "E.ON" in the closed joint-stock company "Hirogas", in exchange for "E.ON" "obtaining" 25% of the share.

The participation of the Netherlands in the project of the liquefaction of gas on the island of Sakhalin located in the far east of Russia, which was operational and agreed for the Dutch participation in "Gazprom" projects on the Russian Yamal Peninsula (Al-Sheikh, August 2009: p 22) .

In March 2007, the Russian company Gazprom and Belgium Fluxys agreed to establish a huge Russian gas depot in Belgium with the beginning of 2012, and the storage capacity of the warehouse were estimated at 300 million cubic meters and was directed for distribution in Europe. Russia's share in the project is 75%, and Belgium own the remaining 25% (Ibid , p23).

Brugas-Alexander Polis oil pipeline project, in which Russia owns more than 50% as well as the Italian energy pipeline project which runs from Russia to southern Europe via the Black Sea, adding to that a project to transport gas from Moscow through Turkey (Al-Sheikh, October 2007: p52-53) .

4-2. Seeking control over alternative energy transmission networks:

Russia seeks to control the energy transmission networks in Central Asian countries, which represent an important resource and potential of an alternative market from the Russian energy to Europe. On May 13, 2008, President Putin toured Central Asia that included Kazakhstan and Turkmenistan, during which he focused on cooperation with the two countries in the field of extraction and exports of oil and gas from Central Asia to Europe via its lands. This agreement will increase the need of the

European Union to Russia and ensure the supply of gas to it, as the pipeline passes from Russia to reach the European countries, unlike what the latter were seeking to avoid Russian territory when building this pipeline (Deutsche Welle ,15/05/2007) .

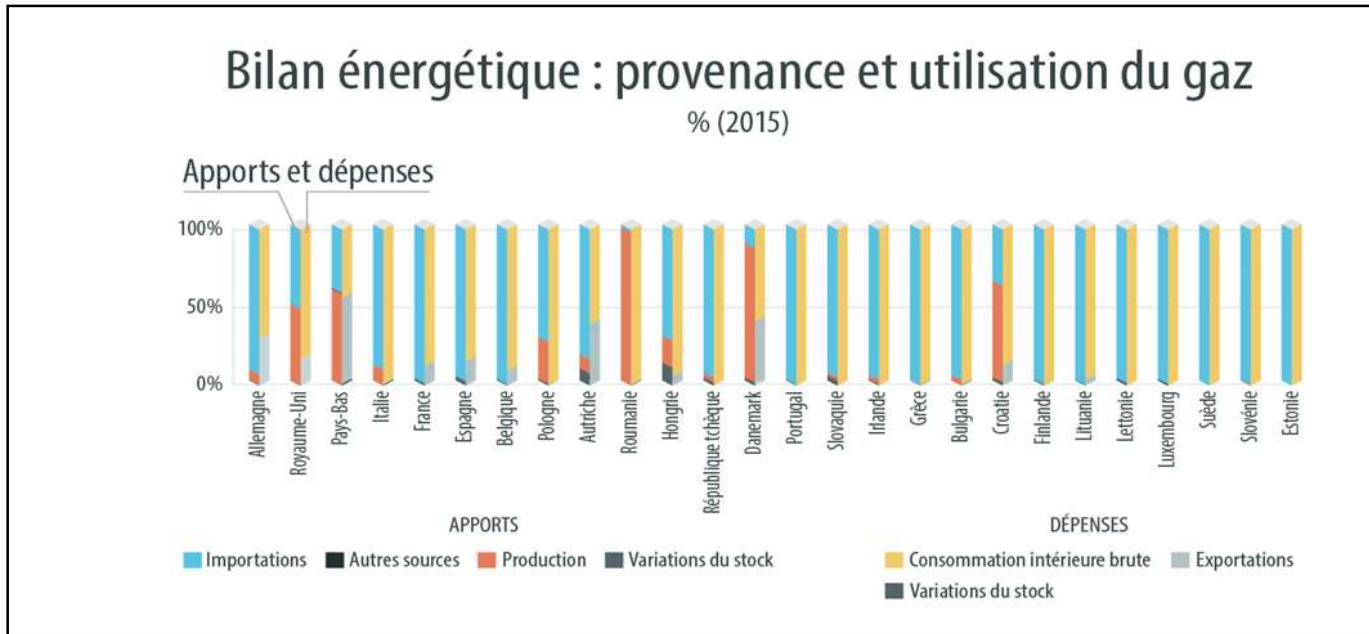
By following this strategy, Russia was able to tighten its grip on natural sources of energy and to have a foothold in every country that possesses an important resource for energy.

4-3.Pursuing a diplomacy that aims at supporting the country and its position in the international community with regards to large-scale energy field:

Through active participation in international negotiations and agreements related to energy issues, achieving a balance of interests between the exporting and importing countries in correlation with those which whom energy moves;

Ukraine is the main crossing point of gas pipelines from Russia to Europe; International organizations and developing cooperation in the field of energy with East Asian countries. The Shanghai Cooperation Organization, The European Union and many other countries and international organizations. Russian companies always try to coordinate with the largest oil and gas market in the world, which is OPEC, and the Forum of Gas Producing and Exporting Countries (DiaaEldine, 2014: p 79) .

Figure N° 01: shows the natural gas imports of European countries, as well as European internal production ratios, consumption ratios and export ratio in 2015 .



Source: European parliament , (2016), Directorate-General for Energy .

And it appears from the figure that Germany is the largest importer of natural gas in the European Union, followed by other major industrial countries such as Britain, Italy, France and Spain, so that there is a discrepancy between the west and east Europe in imports and the consumption of natural gas percentages .

5 - Conclusion:

In conclusion, it can be said that Russia is one of the main energy supplier in Europe, especially with the near depletion of energy supplies from beyond, while the Russian reserves remain significant. Russia is also connected with the European countries through an indispensable pipeline network, just as LNG shipments are transported by maritime routes through tankers, it cannot be a real alternative to the Russian gas in the European energy market. There is no doubt that LNG will allow gas supplies to diversify better, but Russia will continue to supply the European Union with gas and heat their homes for long time.

Results:

- Russian-Western relations are characterized by complexity and lack of transparency, as the two parties are far from amity and cordial relations, they are not in conflict. Rather, what we can understand is that it is a relationship of mutual dependence and interests in the first place, and those interests revolve around the security of energy supplies to Europe and the security of exports and ensuring specific proportion of exports to Russia.
- The crises caused by Russia naming the Ukrainian crisis have accelerated the overall approach of the European Union towards enhancing its energy security through several tools, including the foreign diversification policy of energy suppliers.
- Algeria is one of the main suppliers in the European energy market. It is a reliable and safe partner and has not faced any problem with the European Union.
- Qatar does not currently play a large role in European energy supplies, but this is changing due to the vital role it plays in global gas exports, especially liquefied natural gas (LNG); It represents an ideal alternative to Russian gas supplies.
- The rise of US liquefied natural gas on a competitive basis increased European options in the field of external diversification, as it could play an important role in its supply.
- Europe is currently working to reduce the volume of its consumption and diversify its energy sources between renewable and non-renewable in order to reduce dependence on Russian gas.

We can offer some solutions and scenarios for the future of that relationship as follows:

- That Russia is heading to the East in order to avoid the possibility of reducing its role in the oil market or reducing the number of its consumers, and it can indeed do that, especially since the Asian markets are thirsty for energy sources, especially with the transformation of most Asian countries to advance industrial countries such as China and Japan, this would necessarily achieve energy security for Russia as per its concept.
- . The European Union should also continue to focus on diversifying their energy sources, including increasing LNG imports, developing strategies and mechanisms aimed at achieving energy independence and taking

advantage of the various options pursued by technological developments in the fields of renewable energies.

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