

CONSIDERATIONS ON THE IMPACT OF THE ENERGY CRISIS ON REGIONAL COMPETITIVENESS

PhD Candidate, Cătălina-Elena V. ANDRONACHE (VARTIC)

"Ștefan cel Mare" University of Suceava, Romania

Email: c_vartic@yahoo.com

Lecturer, Ph.D., Emilia IORDACHE

"Constantin Brâncoveanu" University of Pitești, Romania

Email: emi66vl@yahoo.fr

Ph.D., Corneliu-George IACOB

Ministry of National Defense, Bucharest, Romania

Email: iacobcorneliu2022@gmail.com

Abstract: Energy has become a strategic factor in global politics, a vital component for economic development and the progress of society as a whole. The term "energy security" is considered the key to global security. Since 2003, the European Security Strategy has mentioned "building security in our neighbourhood" as a strategic objective of the European Union. The stability of the states bordering the European Union is among the interests of the Union, for at least two major reasons. A first reason for the European Union's major interest in stability and security in its neighbourhood, especially in the eastern part, lies in the geo-economic value of this space, especially from the perspective of energy security. The Black Sea Basin includes states with relevance from an energy point of view, but also for the transit of hydrocarbons from Central Asia to Europe. Security developments in the Black Sea Basin have often been influenced by energy geopolitics, by the European Union's attempts to reduce its dependence on Russian hydrocarbons. The European security architecture is increasingly threatened by ongoing crises and conflicts in the immediate vicinity, to the east and south, capable of affecting, directly or indirectly, Romania's national security interests. Romania, a member of NATO and the European Union, assumes the obligation to maintain strategic balance in an area of interference of regional security complexes, but also to contribute to the consolidation of the Europeanization process, by gradually expanding the European area of freedom, prosperity, security and justice. Romania is interested in ensuring freedom of communication routes in the Black Sea for the development of trade, the resolution of frozen conflicts in the area, the protection of economic activities carried out in the Exclusive Economic Zone of Romania on the Black Sea, as well as the development of projects aimed at ensuring the diversification of access to resources, increasing interconnection capacity and competitiveness, including by implementing the objectives of the Energy Union.

Keywords: energy, competitiveness, security, European Union.

JEL Classification: F50, F52.

1. Introduction

The concept of competitiveness is a complex notion; the theoretical origins of this concept can be traced in the economics of foreign trade and its role in national and international economic well-being, from classical mercantilist theory to the theory of competitive advantages to neoclassical criticisms of the international competitiveness of countries. Recent theories have developed the concept of regional competitiveness, bringing classical theories closer to the applied economics of regions (Voinescu, Moisoiu, 2015). Competitiveness is a concept with multiple meanings, which has led to the emergence of a significant number of definitions: we encounter the concept of competitiveness at the national level, but also at the firm level. Competitiveness takes into account all the elements that explain the success of a nation, from a global perspective. Competitiveness analyzes the way in which both nations and firms use all of their competencies to achieve prosperity and profit. In the European Union, regional competitiveness policy objectives have been adopted as the

main instrument for inducing economic growth, export capacity and performance on the global market.

Regional competitiveness is the capacity of a region to provide an attractive and sustainable environment for businesses and residents. In the European Union, regional competitiveness policy objectives have been adopted as the main instrument for inducing economic growth, export capacity and performance on the global market.

The main threats to Europe's industrial competitiveness are:

- The dynamics of the energy market for Europe.
- High energy costs.

European Union competitiveness – projections to 2030

To foster the competitiveness of the European Union in the future, the European Commission proposes an approach based on nine mutually reinforcing drivers. (European Commission, 2023)

Figure 1. Determinants of the competitiveness of the European Union towards 2030



Source: (European Commission, 2023)

Figure 1 highlights the main drivers of the European Union's long-term competitiveness.

The recent disruptions to energy flows through the Strait of Hormuz have raised major concerns about energy security, both among citizens and businesses in the European Union and beyond. Energy security means ensuring sufficient supply to meet needs, even in the most difficult times.

As early as 2023, according to the World Economic Forum (2023), the main risks for 2023 with the greatest potential impact on a global scale are: “energy supply crisis”; “cost of living crisis”; “rising inflation”; “food supply crisis” and “cyber attacks on critical infrastructure”. The global “new normal” is, in fact, a return to basics – food, energy, security – problems that were thought to be on a path to being solved. Longer-term structural changes in geopolitical dynamics – with the diffusion of power across countries with different political and economic systems – coincide with a rapidly changing economic landscape, leading to lower economic growth, lower investment and cooperation, and a potential decline in human development after decades of progress. (WEF, 2023)

Energy has become a strategic factor in global politics, a vital component for economic development and the progress of society as a whole, generating a series of global concerns

since the immediate aftermath of World War I. Currently, the oil and gas component of energy represents the greatest challenge and concern not only at European level, but also at global level. This depends on many factors: reserves in the field, the countries that manage them, their policies, transit routes, the geopolitical situation, economic and diplomatic power. Lately, the term “energy security” has been increasingly used, being appreciated as the key to global security.(Vornic, 2010)

In a very dynamic and unpredictable global geopolitical and geo-economic context, the European Union launched the European Economic Security Strategy on 20 June 2023. The European Union currently needs a comprehensive strategic approach to economic security, so as to reduce risks and promote its technological advantage in critical sectors. The strategy also identifies the priorities of a European Union economic security strategy:

- Promoting the competitiveness of the European Union by increasing the resilience of the economy and supply chains;
- Protecting the European Union against jointly identified economic security risks, through better use of the instruments that the European Union already has, such as those on trade defence, foreign subsidies, 5G/6G security, foreign direct investment screening and export controls, as well as the new instrument to combat economic constraints;
- Creating partnerships with countries that share the European Union's concerns regarding economic security.(Iacob,2023)

2. Energy security of the European Union

According to Eurostat (Energy in Europe,2026), in 2024, the EU produced 43% of its own energy, while 57% was imported. 48% of the energy produced in the EU in 2024 came from renewable sources, and petroleum products have the largest share in the EU energy mix.

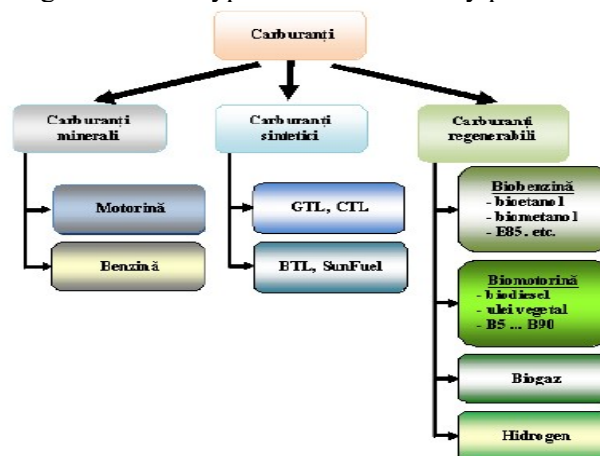
2.1 Energy security – general framework

Energy security is a multidimensional concept; if it was initially a concept attached to oil, it has gradually expanded to natural gas and electricity, as well as to the area of meanings, from physical supply to all phases related to the energy chain. Increased energy security means, first of all, a greater diversity of supply sources. For most specialists, energy security means being assured in terms of sources, control of routes and distribution and alternatives. In a broad sense, the concept is defined as "secure resources at a reasonable price", in other words it encompasses a much broader issue than the triangle security of supply - sustainability - competitiveness. Considered a major issue, energy security has at least two relevant aspects: the security of the supply channel and the security of associated critical infrastructures. Any definition of energy security includes the terms "risk" and "uncertainty", and supply disruptions raise the most pressing concern related to this topic. This note also includes the profile documents of the European Union, which provide definitions for energy security based on the risk of supply disruption, a risk that can be generated by natural disasters or terrorist threats. As an axiom, absolute energy security does not exist. It can be achieved at an acceptable level of risk, at an acceptable cost. As a synthetic definition, energy security can be considered as ensuring continuity in the supply of energy, in its various forms, while respecting restrictive conditions, over a given time horizon. Energy plays an important role in the national security of any country, from an economic perspective. Energy security is closely linked to vulnerability to disruptions in the supply of energy resources - oil, natural gas, coal and electricity. One of the major threats to energy security is the significant increase in the price of energy on the world market - as has happened in the numerous energy crises over

time - or through the imposition of price increases by oligopolistic or monopolistic suppliers, cartels or countries. In recent years, new threats to energy security have emerged in the form of increasing global competition for energy resources due to industrialization at an ever-increasing pace in countries such as India and China. The increasing competition for energy resources may also lead to the formation of new security blocs to allow for a fair distribution of oil and gas among the major powers. (Vornic, 2010)

In an increasingly globalized economy, a country's energy strategy is carried out in the context of developments and changes taking place worldwide. Total energy demand in 2030 will be about 50% higher than in 2003, and for oil it will be about 46% higher. Known proven oil reserves can support current consumption levels only until 2040, and natural gas reserves until 2070, while global coal reserves provide a period of over 200 years even with an increase in the level of exploitation. Forecasts indicate economic growth, which will imply an increased consumption of energy resources. The increase in energy demand, combined with geopolitical factors, especially the situation in the Middle East, determined, in the first decade of the 21st century, the increase in the price of crude oil, which also induced increases in natural gas prices. Another factor that determined the increase in the price of petroleum products worldwide was the lack of refining capacities, a problem that requires the identification of medium and long-term solutions. Added to all this was the tendency shown by some states to supplement stocks in order to cope with crisis situations. The above elements are the basis for the reorientation of the energy policies of countries that are net importers of energy, in the sense of increasing the attention paid to renewable energy resources and improving energy efficiency. At the same time, the opportunity to close nuclear power plants is being reassessed in a number of countries that have proposed to cease the production of electricity in such plants. The continuous increase in energy demand, combined with geopolitical factors, especially the situation in the Middle East, have determined the sharp increase in the price of crude oil. Added to this was the tendency shown by some states to supplement stocks in order to cope with potential crisis situations. (Vornic,2010)

Figure 2. Main types of fuels currently produced



Source: (Vornic,2010)

Ensuring an adequate level of energy security depends on the specific situations. In European countries, the debate on energy security focuses on the dependence on natural gas imports. Differences in the level of ensuring energy security also derive from the specificities

of the different energy subsectors, which are found throughout the energy chain - production, transport, storage, use. (Vornic, 2010)

The following major types of risks can affect the security of energy supply:

A. **Physical risks** that refer to the possibility of a physical, permanent interruption of supply, especially of oil. More than 3/5 of energy transport is carried out by sea and less than 2/5 through pipelines. Only oil tankers have made global, intercontinental transport of oil possible. In contrast, oil tankers are very easy targets for various types of political extremists. Due to the role they play in the global economy, the maritime system of oil trade can be called the vascular system of today's world. Disruptions and irregularities in the distribution cycle can have a major impact on oil prices, and can even lead to a global economic recession. The importance of the problem increases if we add the fact that the Far East (countries such as Japan, Taiwan, the Republic of Korea, China) is supplied with oil only through maritime trade. Other developed areas also have limited possibilities of replacing oil tankers with other means of transport. Oil trade routes lie along the coasts of many unstable states, where terrorists can organize their bases, where there are few narrow straits (called "mandatory crossing points"), which offer potential attackers favorable circumstances to organize attacks. The most important "mandatory crossing points", fixed due to the natural course of maritime oil trade routes, are: the Strait of Hormuz, the Bab el-Mandeb Strait, the Bosphorus, the Strait of Malacca and the Suez Canal.

B. **Economic risks** that refer to the vulnerability of the economic environment under the pressure exerted by fluctuations in energy prices, in particular the sharp increase in the price of crude oil, which represents the leading price of energy. Economic risk derives from the volatility of markets and crude oil prices. Theoretically, the sharp increase in prices leads to an increase in production costs, which induces inflationary pressure directly or indirectly in each economic sector which, in turn, determines a decline in consumption. This leads to a decrease in profits for most companies, to a reduction in production, to the postponement of investment decisions and, implicitly, to an increase in unemployment. On the other hand, cheap crude oil has been a great disadvantage for developed countries and the most "perverse" enemy of energy security. It has blocked the possibilities of resorting to alternative energy sources to oil, such as (more expensive) renewables, and of developing new oil fields, contributing to maintaining consumerist behaviors by encouraging waste and discouraging energy-saving practices. Finally, it has contributed to increasing consumer dependence on a small group of producing countries with the lowest costs, located in the Middle East.

C. **Geopolitical and geostrategic risks** arise because energy is a vital source of interest for both producing and consuming countries. Unequal access to resources, the special geopolitical interests of the great powers, are potential sources of conflict both between consuming countries and between them and producing countries. Political conflicts in the regions producing energy resources, including terrorist manifestations, pose a severe threat both to current oil supplies and to the prospects of the large investments needed to develop the resources to their full potential. Given that the demand for hydrocarbons of the EU and, in general, of developed countries tends to be satisfied to an increasing extent from the Persian Gulf, the Caspian Sea region and Russia, importing countries fear: political instability in the Caspian Sea and the Gulf Area; risk points/fever points in critical infrastructure (risks of supply disruption, terrorism); intensifying competition between consumer countries to ensure control over oil and natural gas resources, mainly between the USA, China and the EU. The fears associated with the security of these imports, although justified, do not justify taking

refuge in the concept of "self-supply", which would impose enormous costs for environmental protection and competitiveness. On the contrary, EU governments and energy companies will have to collaborate to ensure the continuity of supply at reasonable prices. For example, the Caspian basin represents an area of confluence, but also of confrontation between the interests of three major players: the USA, Western Europe, Russia, and the sine-qua-non condition for the exploitation of these reserves is the provision of transport infrastructure to Europe, either transiting Russia or via other routes. The terrorist actions of September 11, 2001 had seismic effects on energy geopolitics, especially on the geopolitics of oil. The Middle East suddenly became a less secure area, and the major economies realized that they were too dependent on it. As a result, they moved to actions to dissipate dependence throughout the globe. Thus, other areas also acquired strategic importance, new competitions were triggered, and the national interests of the states began to gain increased relevance compared to the interests of the alliances.

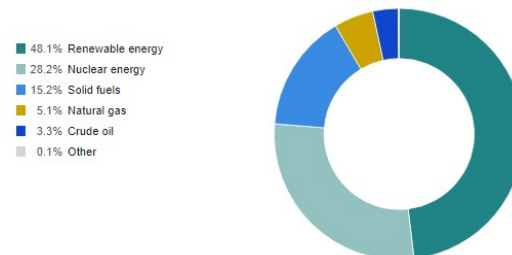
D. Social risks. The instability of the energy supply, whether associated with disorderly fluctuations in prices, or relations with producing countries, or geopolitical crises, can cause serious social disruptions but also changes in corporate behavior. Strikes and protests by certain social categories affected by the increase in oil prices, especially commercial carriers in Western European countries, are an illustrative example in the aforementioned sense. It should also be remembered that the first two oil crises put an end to a beneficial period in terms of the level of employment of the workforce. High energy prices imply the commitment of governments to find solutions to make an increase in energy prices bearable, especially for the most disadvantaged categories of the population, by virtue of the concept of social responsibility of energy projects.

E. The risks associated with environmental protection come from sources such as: accidents caused by the chain of energy operations, technical accidents, but above all, they are due to polluting emissions generated by the consumption of energy systems. Increasing energy security and addressing climate change are two of the major concerns and challenges of today's society. (Vornic,2010)

2.2 The European Union's energy mix

According to Eurostat (Energy in Europe,2026), in 2024, the EU produced 43% of its own energy, while 57% was imported. Approximately 48% of the energy produced in the EU in 2024 came from renewable sources, and petroleum products have the largest share in the EU's energy mix.

Figure 3. Energy production, by sources, 2024, (in %)



Source: (Energy in Europe,2026)

In 2024, the shares of different energy sources in the gross available energy varied considerably between EU countries:

- ✓ Petroleum products, in the available energy, were the highest in Cyprus (86%), Malta (85%) and Luxembourg (60%)
- ✓ Natural gas was a significant source of energy in Italy (36%), the Netherlands (31%), Hungary and Ireland (both with 29%)
- ✓ Renewable sources were the highest in Sweden (48%), Latvia (46%) and Denmark (43%)
- ✓ Nuclear energy accounted for 40% of the available energy in France, Slovakia (30%) and Sweden (26%)
- ✓ Solid fuels had the highest shares in Estonia (50%), Poland (34%) and the Czech Republic (26%).

➡ **Energy imports and import dependence**

In 2024, the main category of imported energy products was oil and petroleum products (including crude oil, which is the main component), accounting for 67% of EU energy imports, followed by natural gas (24%), solid fossil fuels (4%), electricity (3%) and renewable energy (2%).

➡ **Different models between EU countries**

In 2024, EU countries' energy imports had the largest shares of:

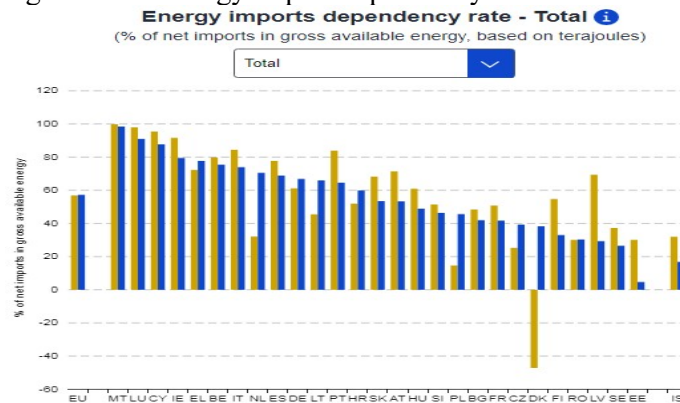
- oil and petroleum products in Cyprus (96%), Malta (86%), Sweden (85%) and Greece (84%)
- natural gas in Italy (37%), Denmark (33%), Germany and France (both 29%)
- solid fossil fuels in Slovakia (15%), Czech Republic and Austria (both 11%) and Germany (9%)
- electricity in Estonia (21%), Luxembourg (16%) and Slovenia (13%)
- renewable energy in Denmark (10%), Latvia (7%) and Luxembourg (5%). (Energy in Europe, 2026)

➡ **EU's main suppliers in 2024: United States for oil and petroleum products, Norway for natural gas, Australia for solid fossil fuels**

For its own consumption, the EU also needs energy imported from countries outside the EU. In 2024, the largest shares of EU imports for different products were:

- oil and petroleum products from the United States (16%), Norway (12%), Kazakhstan (9%), Saudi Arabia (8%), the United Kingdom and Libya (both 6%). These countries accounted for 57% of extra-EU imports of oil and petroleum products;
- natural gas from Norway (30%), the United States (17%), Algeria and Russia (both 14%). These countries accounted for 75% of extra-EU imports of natural gas;
- imports of solid fossil fuels (mainly coal) came from Australia (31%), followed by the United States (28%), Colombia (15%), Kazakhstan (8%) and South Africa (6%). These countries accounted for 88% of extra-EU imports of solid fossil fuels.

Figure 4. EU energy import dependency rate: 57% in 2024



Source: (Energy in Europe,2026)

2.3 European Energy Union Strategy

Adopted by the European Commission on 25 February 2015 and validated by the European Council in June 2015, the European Energy Union Strategy covers 5 dimensions:

- ☐ energy security;
- ☐ solidarity and trust;
- ☐ internal energy market;
- ☐ energy efficiency;
- ☐ decarbonisation of the economy and research;
- ☐ innovation and competitiveness.

The aim of the strategy is to provide the guidelines and actions necessary for the long-term transformation of the European energy system.

Romania is committed to the joint European effort to implement the actions related to the Energy Union. For Romania, measures to strengthen Europe's energy security, to achieve long-term objectives in the field of energy and climate change and to achieve an integrated and functional energy market remain priorities.

Romania seeks to participate/connect to new energy transport corridors, both in terms of ensuring a higher degree of security in energy supply, and through the importance of accessing European funding for the development of national energy infrastructure.

The main projects of interest promoted by Romania:

Natural gas

- ☐ BRUA (natural gas transport corridor on the Bulgaria-Romania-Hungary-Austria route);
- ☐ New developments of the NTS in order to take over gas from the Black Sea coast;
- ☐ Interconnection of the national energy system with that of neighboring states, a strategic project being the interconnection of the Republic of Moldova to the EU energy system through Romania; Romania-Serbia Interconnector;
- ☐ Projects for the development and establishment of new natural gas storage facilities.

Electricity

- Interconnection of the power systems of Romania and Bulgaria => to increase the exchange capacity between Romania and Bulgaria
- Interconnection of the power systems of Ukraine and the Republic of Moldova to the Continental European system. (European Commission,2026)

2.4 Measures to counter the energy crisis

As part of the Clean Industrial Pact, the Commission presented the Affordable Energy Action Plan (COM/2025/79) on 26 February 2025. Complementing this, in October 2025, Commissioner for Energy and Housing, Dan Jørgensen, called on his EU counterparts to take action in 7 priority areas to accelerate the reduction of energy prices for industry and households.

Affordable Energy Action Plan

The Affordable Energy Action Plan includes 8 actions, many of which have already been implemented in 2025. These actions are based on 4 pillars:

- reducing energy costs for all
- completing the Energy Union
- attracting and securing investments
- preparing for potential energy crises.

Measures implemented in the Action Plan

In the 2025 State of the Energy Union Report, the Commission summarised progress in implementing the Affordable Energy Action Plan:

Action 1 - Making electricity bills more affordable

Action 2 - Reducing the cost of electricity supply

Action 3 - Ensuring functioning gas markets

Action 4 - Delivering energy savings through energy efficiency

Action 5 - Completing the Energy Union

Action 6 - Tripartite agreements to ensure affordable energy for European industry

Action 7 - Ensuring security of supply for price stability

Action 8 - Preparing for the price crisis

Action 6 - Tripartite agreements to ensure affordable energy for European industry. (European Commission, 2026)

To counter high energy prices and market uncertainty, tripartite agreements for affordable energy can bring together the public sector, energy producers and energy-consuming industries to create a favourable investment climate, facilitating a competitive EU industrial sector while ensuring the maintenance and creation of quality jobs. Through mutually reinforcing commitments, private and public actors can support a favourable investment framework and secure affordable energy supplies for European industries.

3. Energy prices – priority EU actions

Based on the Affordable Energy Action Plan, energy prices must be brought to a level that ensures Europe's competitiveness. The Commission has identified 7 priority actions to help the EU and EU countries achieve this goal, while taking into account regional and national factors:

1. Making full use of the consolidated State aid framework
2. Making the most of EU Cohesion Funds
3. Engaging promotional banks and working with the EIB to reduce risks in Power Purchase Agreements for industry and SMEs
4. Rapidly reforming national permitting regimes to accelerate the deployment of renewable energy, grids and storage

5. Prioritising interconnection and grid expansion at national level to limit congestion and enable businesses to connect
6. Gas, both pipeline and LNG, must come from more trusted allies
7. Reducing taxes and levies, with a strong focus on electro-intensive industries and vulnerable consumers, and providing tax credits for the electrification of industry (European Commission, 2026).

4. Conclusions

Energy is an area of strategic importance because its provision at reasonable prices influences the economic competitiveness, domestic production capacity and political strength of a state. The security of energy supply affects the well-being of a state, and changes in energy prices affect the allocation of well-being at the national level. And, last but not least, the defense capacity of a state also depends on a good energy supply.

Energy security is a complex political, technical, economic, commercial and social concept. As an axiom, absolute energy security does not exist. It can be achieved at an acceptable level of risk, at an acceptable cost. As a synthetic definition, energy security can be considered as ensuring continuity in the supply of energy, in its various forms, while respecting restrictive conditions, over a given time horizon.

References:

1. European Commission, 2023. *European economic security strategy*. [online] Available at: <<https://eurlex.europa.eu/legal-content/EN/TXT/HTML/?uri=CELEX%3A52023JC0020>> [Accessed 2 April 2026].
2. European Commission, 2026. *Affordable energy*. [online] Available at: <https://energy.ec.europa.eu/strategy/affordable-energy_en> [Accessed 2 April 2026].
3. European Council, 2024. *Sanctions against Russia*. [online] Available at: <<https://www.consilium.europa.eu/en/policies/sanctions-against-russia/>> [Accessed 2 April 2026].
4. Iacob, C.G., 2023. *Analysis of the competitiveness of the European Union in the current global geopolitical and geoeconomic context*. In: Conference Proceedings: Economic growth in the conditions of globalization, International Scientific-Practical Conference, XVIIth edition, October 12-13, 2023, Chisinau, National Institute For Economic Research (NIER), Chisinau: SEP ASEM, 2023, vol. I, pp. 123-132.
5. Voinescu, R. and Moisoiu, C., 2015. Competitiveness, Theoretical and Policy Approaches. Towards a More Competitive EU. *Procedia Economics and Finance*, 22, pp.512-521. [online] Available at: <<https://www.sciencedirect.com/science/article/pii/S2212567115002488>> [Accessed 2 April 2026].
6. Vornic, S., 2010. *Securitatea energetică în contextul securității globale*. Colocviu Strategic Nr. 12, 2010, Universitatea Națională de Apărare „Carol I”, Centrul de Studii Strategice de Apărare și Securitate. [online] Available at: <https://cssas.unap.ro/ro/pdf_publicatii/cs12-10.pdf>, p.1-8
7. World Economic Forum, 2023. *Global Risks Report 2023*, pp.13-25 [online] Available at: <<https://www.weforum.org/reports/global-risks-report-2023/>> [Accessed 2 April 2026].
8. World Trade Organisation, 2023. *World Trade Report 2023 — Re-globalization for a secure, inclusive and sustainable future*. [online] Available at: <https://www.wto.org/english/res_e/publications_e/wtr23_e.htm> [Accessed 2 April 2026].