

# ENERGY SECURITY IN THE BLACK SEA: BENEFITS OF A COOPERATION BETWEEN ROMANIA, BULGARIA, AND TÜRKİYE

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*Türkiye, Bulgaria, and Romania can formalize a distinct, trilateral energy space, a supplier of energy and energy security for the southeastern European area, and for the EU, the territory can become an extended energy hub in the field. These countries have significant primary energy resources of their own (exploration-exploitation), but the essential advantage is given by their geographical and infrastructural proximity to the Middle East, which plays a significant role in global energy issues. The extended energy hub concept can offer the potential for mutual collaboration, regional energy security and sustainable connectivity with other major energy resource providers regionally and globally.*

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**E**nergy security in the Black Sea is a matter of strategic importance both for the countries in the region and for the EU and NATO, since the Black Sea is a strategic crossroads between Europe, the Middle East, and Asia. Still, it is also a dense area with frozen and “unfrozen” conflicts.

In the light of the current global context, energy security is a subject of much debate. It is influenced by political, economic, geopolitical, theoretical, and scientific facts, bearing in mind the significant oil and gas reserves that the states in the region possess and the critical energy transport routes that run through the Black Sea countries.

The concept of “energy security” implies the maintenance of a reliable and sustainable energy supply, including electricity, natural gas, petroleum products and other energy sources. The goal is to ensure permanent access to energy resources, to operate and develop the infrastructure and production capacity needed to use them efficiently.

For ensuring energy security, the representative institutions in the energy-related areas must implement measures that indicate an unified and consistent strategy with the main aim of i) diversifying energy sources (e.g. oil or natural gas) in order to reduce dependency on a single source, ii) increasing energy independence through the development of domestic production resources such as cogeneration, renewable energy and improving energy efficiency, iii) improving energy infrastructure, including transmission and distribution networks, so as to ensure better and safer access to energy, iv) increasing the storage capacity of electricity, natural gas and of petroleum products, in order to prevent supply disruptions, v) forging international partnerships to reduce dependence on suppliers of energy, natural gas or petroleum products from a single region or country, vi) improving the energy infrastructure’s cybersecurity to prevent cyberattacks.

### ***Key Aspects of the Energy Security in the Black Sea***

To understand the debated concept, it is necessary to seek answers regarding the definition of the term “threat”. Thus, according to Paul Robinson’s “Dictionary of International Security” (C&A Publishing, Cluj-Napoca, 2010) the term is defined as follows: “From the perspective of national security, the threat is someone or something that has the potential to harm national interests. Theoretically, the Security policy should be inferred from threat analysis, which would lead to appropriate responses to reduce the harm that such threats cause.”.

Risk is the possibility of facing danger. In the area of energy security, the possibility of such situations arising lies in the extraction area and transport territories. Risky situations that we may encounter are technical failures or commercial misunderstandings that lead to a decrease or a halt in energy flow.

Another relevant concept in the process of understanding energy security is vulnerability, as it is the sore point of someone or something. For example, all the states that were getting supplied or continued to get supplied (e.g. Hungary, Slovenia) with gas through pipelines that cross Ukraine were vulnerable in the context of the internal political or foreign policy turmoil that the Ukrainian state faced.

To ensure regional security, the principle of “collective defense” needs to be implemented, a concept which is based on voluntarism, selectivity, openness, permissiveness, legal basis, legitimacy and deterrence of threats. In order to achieve the expected results, states need to benefit from the theoretical support of energy policies, strategies and legislation.

However, we notice that, in most cases, at national level, states reserve their right to act according to their own interests, given the interdependence relation between energy security and national security. They often seek to meet their individual needs at the expense of participating in joint efforts.

Starting from the principle of collective security, EU member states, NATO countries, but also former USSR member states in the Caucasus - Caspian Sea area have developed common medium- and long-term energy strategies. We can conclude that we are witnessing a new trend in the field of international relations, as they have realized the importance of energy and the fact that energy is now a bargaining chip and a factor of risk for national and, at the same time, regional security. If we look at the events that have marked the international arena, we can consider that energy security is interdependent on economic security, as well as the security of each state's own infrastructure.

If we bring to the fore Romania, Bulgaria and Türkiye, we can say that the three states have access to considerable resources/reserves of oil and natural gas in the Black Sea, to new opportunities for exploitation. For example, Romania's Neptun Deep perimeter is critical to reducing dependence on foreign energy imports.

The Black Sea is a critical hub for energy transport between Europe, Asia and the Middle East. The South Stream, Turkish Stream and TAP (Trans Adriatic Pipeline) natural gas pipelines are vital for the diversification of supply sources and for the European energy security.

Liquefied Natural Gas (LNG) terminals in Türkiye and other coastal states offer additional supply alternatives.

The region, however, is marked by geopolitical tensions between the Russian Federation and NATO member countries. Russia is using energy as a tool of political influence, affecting Europe's energy security by controlling some routes and reserves.

Infrastructure projects, such as alternative pipelines to the Russian ones, are crucial to reduce dependence on Russian gas and increase the energy security of the countries

in the region and the entire European continent.

Collaboration between the countries bordering the Black Sea and their international partners is a significant reality. Regional initiatives, such as the Organization of the Black Sea Economic Cooperation (BSEC), contribute to the development of common policies for energy security.

We see an important role for the EU and NATO in supporting energy projects and ensuring stability in the region.

Investments in renewable energy sources (wind and solar energy) ensure diversification of the energy mix and reduction of dependence on combustible fossil resources.

Romania and Bulgaria, for instance, have significant potential for the development of offshore wind farms in the Black Sea.

However, political instability and conflicts in the region can threaten energy infrastructure and investment projects.

Dependence on energy imports from Russia remains a major concern for the countries in the region.

It is well known that uneven regulations and legislative framework can often discourage foreign investment. We see that there are initiatives and strategies for energy security in the area. What the European policy does not include, however, is a developed infrastructure that would be a relevant element in increasing competition in the gas market and diversifying supply sources, which are the basis for increasing supply security. Caspian gas sources would be an opportunity for the European Union to increase the security of energy supply and a chance to lower sale and transport prices. Given that some elements indicate risks associated with the extraction areas, the territories on which the gas transport systems (pipelines, pumping stations, storage tanks) could be built are quite unstable politically, which may be why the EU has not yet decided. At the same time, there are question marks over the sources of supply of the two supply corridors envisaged by the EU. Possible options may be Turkmenistan, Kazakhstan, with significant extraction basins, but these cost more because a pipeline running under the Caspian Sea would have to be built, and last but not least Azerbaijan, whose Shah Deniz extraction basin is only 70km away from the Caspian coast.

However, discovering new deposits and developing transport infrastructure offer positive prospects for energy security.

Regional and international cooperation can bring particular benefits, including through the trilateral Romania – Bulgaria – Türkiye commitment, and the transition to green energy and investments in renewable sources contribute to a more sustainable

energy security in the area.

The diversification of energy sources through local exploration and production, together with bilateral and multilateral cooperation agreements, triggers commitments to develop energy infrastructure (pipelines and terminals, interconnections, offshore wind energy, solar and other renewable sources).

However, energy infrastructure resilience and security requirements (critical infrastructure protection, crisis responses, harmonization of regulations) prove themselves to be of date.

### ***Energy Security in Romania***

A country's energy security is a vital component of its national security doctrine. Given the country's strategic position in the region and its significant natural resources (diversified energy mix, investments in infrastructure, integration of renewable energy sources and reduction of dependence on imports), energy security in Romania is of major interest.

From Romania's perspective, energy security is a relevant element in ensuring national security, and the country's geostrategic positioning causes both challenges and impediments. On the one hand, as Romania is on the periphery of the European Union, logistical and operational integration with developed countries is much more difficult to be achieved, requiring constant and joint efforts. On the other hand, Romania is close to energy sources, such as the Caucasus and the Middle East, which determines its regional relevance. Nevertheless, Romania still has much to invest in developing energy security, requiring a development and update of the legislative framework, a transformation of standards in line with the principles promoted at European level and an increase in the resilience of energy systems.

Romania is one of Eastern Europe's largest oil and gas producers (reserves in the Black Sea continental shelf in the Neptune Deep perimeter).

The use of coal is declining due to environmental policies, but it still plays a role in the energy mix.

There is potential for wind, solar, and hydro energy (the wind farms in Dobrogea are among the largest in Europe).

The natural gas transmission system is well developed, with interconnections to European networks (BRUA / Bulgaria – Romania – Hungary – Austria).

There is diversified electricity production capacity, coal, natural gas, hydropower plants and the Cernavodă nuclear power plant.

Energy efficiency programs involve the thermal rehabilitation of residential and

public buildings.

Projects to interconnect gas and electricity networks with those of the neighboring countries contribute to security of supply and increased resilience to crises.

The supply agreements for natural gas from various sources involve LNG (from the USA) or natural gas (from Azerbaijan).

The challenges are linked to the instability in the region (tensions with Russia may affect the security of energy supply given the dependence on Russian natural gas), and delaying investments in the energy infrastructure and renewable sources may limit Romania's capability to ensure its energy security in the long term.

The opportunities relate to discovering new hydrocarbon reserves in the Black Sea and other areas and adopting advanced technologies in energy production and distribution.

### ***Energy Security in Bulgaria***

Bulgaria is making efforts to diversify energy sources, modernize infrastructure and integrate renewable energy to ensure its long-term energy security.

The country has significant lignite reserves, which are used mainly in thermal power plants. However, the use of coal is declining due to environmental policies and the energy transition.

Bulgaria's hydropower potential and limited oil and natural gas reserves make it dependent on imports, particularly from Russia.

The Kozloduy Nuclear Power Plant is a conclusive component of the national energy system, with plans for the construction of a new nuclear power plant in Belene being currently assessed.

Bulgaria is a strategic hub for natural gas transport with links to Russia, Greece and Türkiye networks. The IGB (Interconnector Greece-Bulgaria) project is essential for diversifying natural gas sources.

Investments in wind, solar and bioenergy are on the rise, and projects for interconnection with gas and electricity networks in neighboring countries (IGB and the interconnector with Romania) are significant in the area.

### ***Energy Security in Türkiye***

This is a matter of strategic importance given Türkiye's unique geographical position between Europe and Asia, as well as its role as a transit hub for energy resources.

Significant natural gas deposits have recently been discovered in the Black Sea (Sakarya field) and the use of coal raises concerns about the environmental impact.

Türkiye has significant potential for increasing the results obtained in the wind, solar and hydro energy fields.

Türkiye is a transit country for the natural gas and oil pipelines connecting resources from Central Asia, Russia, and the Middle East to Europe (Turkish Stream and TANAP / Trans-Anatolian Natural Gas Pipeline).

The country is developing nuclear power plants (in Akkuyu), is increasing the share of renewable sources in its energy mix, is investing in the modernization and expansion of energy transmission and distribution networks and is developing interconnection projects with energy networks in neighboring countries.

Türkiye imports natural gas from various sources, including Russia, Azerbaijan, Iran and Qatar, and invests in LNG infrastructure to ensure flexibility of supply.

The country is often vulnerable to price fluctuations and geopolitical tensions, and regional conflicts and differences with neighboring countries may affect supply and energy stability security.

### ***Romania – Bulgaria – Türkiye Energy Cooperation***

Energy cooperation between Romania, Bulgaria and Türkiye is an essential component of the energy strategies of each country involved.

1. The basic direction of cooperation relies in the Interconnection of gas and electricity networks: the BRUA project, the interconnection of the three countries' electricity networks, facilitating energy exchange and ensuring the stability of energy systems.

2. Cooperation for the exploration and exploitation of energy resources: agreements of connections between exclusive economic zones with the trilateral approach of joint projects for the exploration and extraction of natural gas and oil in the Black Sea, development of common capacities of renewable energy sources, exchange of knowhow for the transition to a green economy.

3. Romania, Bulgaria and Türkiye can work together to diversify energy sources and reduce dependency on a single supplier (e.g. targeted import and development of LNG terminals and other critical infrastructure).

4. Energy security is the overriding result of regional collaboration (given external threats, energy market fluctuations, establishment of an integrated energy market, sharing of information and resources, common strategies to respond to energy crises).
5. Equally, effective cooperation requires harmonizing energy regulations and policies and reducing administrative barriers.
6. Joint research and development programs for new technologies and energy efficiency bring benefits for the three countries, focusing on at least three segments: 1) BRUA Pipeline (for the transport of natural gas through Romania and Bulgaria to other European countries), 2) Black Sea Oil & Gas (joint exploration and exploitation of the Black Sea resources), 3) joint investments in renewable energy.
7. Joint projects may include developing and implementing new energy storage technologies (advanced batteries and long-term storage solutions), smart grids, green hydrogen, carbon capture and storage.
8. Universities and research institutes in Romania, Bulgaria and Türkiye can work together to develop joint educational programs in the field of energy, training and professional growth, exchange of knowledge and good practices.
9. Trilateral cooperation can help reduce dependence on energy imports from geopolitically unstable or unreliable sources, contribute to regional stability and prosperity, strategic partnerships can reduce geopolitical tensions.
10. The involvement of civil society (NGOs and local communities) coupled with public-private partnerships (PPPs) can mobilize the efforts to develop the energy infrastructure and implement innovative projects. Governments are urged to work with private companies to achieve common goals.

### ***Benefits of Trilateral Cooperation***

The trilateral cooperation between Romania, Bulgaria and Türkiye in the energy field positively impacts energy security, economy, the environment and regional stability.

1. Joint energy security (diversification of sources, infrastructure resilience) and the interconnection of gas and electricity networks between the three countries ensure flexibility and responsiveness to emergencies or energy crises.
2. Economic benefits relate to cost reduction, attracting investments, creating jobs.
3. Joint research and development projects ensure the transfer of knowhow and environmental protection.
4. Regional stability and integration are improved through the development of



bilateral and regional relationships, integration into the European and global energy market.

5. The most important benefit is the social impact and community development (access to energy, community involvement). There are multiple benefits of trilateral cooperation between Romania, Bulgaria and Türkiye in the energy field. This increases energy security, reduces costs, and stimulates technological innovation, protects the environment, and strengthens regional stability. The involvement of all relevant actors and an integrated approach are essential to make full use of these benefits and ensure a sustainable energy future for the region.

6. It is recognized that the trilateral approach increases the negotiating capacity on international market, access to new markets, stimulates competitiveness, and economy on a large scale.

7. Enhancing the safety and reliability of energy grids (resilience, coordination in crisis management) are stemmed from cross-border projects through the development of energy corridors.

The trilateral partnership can serve as a model of regional cooperation, attracting interest and support from other countries and international organizations for joint energy projects.

The active involvement in global and regional initiatives, such as the European Green Deal, can bring additional benefits and position the three countries as regional leaders in the energy transition.

### ***Concluding Remarks***

Energy resources are distributed unevenly, causing regional and international power to be unbalanced. Most of the resources in Eurasia are located on the territory of the Russian Federation and in the Caspian Sea.

Cooperation and achieving a high level of convergence of efforts are two of the most important tools actors use to ensure their security and the necessary framework for development.

At European level, energy security will see new developments and will be one of the main elements that will define trade and environmental policies.

The transited territories and states represent the risk of transportation. The economic power, the political administration and the level of the population's technical education, the economic circuits and the borders crossed, as well as the infrastructure are determining factors when choosing transportation routes and price.

The energy cooperation between Romania, Bulgaria and Türkiye is a crucial element for the region's energy security and stability and for Europe's energy security as a whole. This requires continued investment in infrastructure, common regulations and an integrated strategic approach in order to exploit each country's energy potential fully.

Trilateral collaboration, investments in infrastructure and alternative energy sources are essential for ensuring a stable and sustainable energy supply in this strategic region.

By adopting coherent strategies and through a trilateral cooperation between Romania, Bulgaria and Türkiye, the Black Sea region can become an important aggregated hub for the European and global energy security.

Trilateral energy cooperation between Romania, Bulgaria and Türkiye has many benefits, ranging from enhanced energy security and cost reductions to boosted technological innovation and environmental protection.

This cooperation implies developing an integrated and competitive regional energy market capable of responding to current and future challenges.

By adopting a strategic and coordinated approach, the three countries can fully capitalize on the potential of an energy cooperation, thereby ensuring a sustainable and prosperous energy future for the entire region.