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ENERGY SECURITY AND DIVERSIFICATION OF NATURAL GAS SUPPLY IN THE WESTERN BALKANS AFTER 2022 IN THE CONTEXT OF THE UKRAINE CRISIS

ABSTRACT This paper examines the impact of disruptions in the energy sector caused by the Russia–Ukraine conflict, which has been unfolding across the European continent since 2022. The research focuses on structural changes in natural gas supply, with particular emphasis on the countries of the Western Balkans and the Republic of Serbia. Through the analysis of available literature, economic indicators and relevant statistical reports, the changes resulting from shifts in the energy supply are investigated. The reports indicate significant price shocks, inflationary pressures, and the reorientation of trade, accompanied by accelerated energy diversification and integration with the European Union (EU). The tensions between Russia and Ukraine have caused the shifts in the energy landscape as well as the shortages of energy resources in the region. The analysis reveals notable differences in economic resilience across countries, where economies with lower dependence on Russian energy sources and greater diversification demonstrate a higher degree of stability. The paper further examines household energy consumption and the share of energy expenditures, while providing a comparative analysis of overall inflation and energy-sector inflation. The challenges faced by economic policymakers in securing reliable energy supplies are investigated. In addition,

the paper provides policy recommendations aimed at strengthening energy security and ensuring the uninterrupted supply of energy resources.

Keywords: energy resources; Western Balkans; European Union; Serbia; diversification; Ukraine crisis

INTRODUCTION

The economic development and stability, both at the national and global levels, are intrinsically linked to the energy sector. Energy sector plays a fundamental role in ensuring macroeconomic stability and fostering economic growth. The process of globalization, international market integration and rapid technological advancement have intensified the international dependence of national economies, thereby enhancing the strategic importance of the energy sector. With the passing of time, the significance of energy sector has increased, raising new questions and methods of perceiving energy resources, their availability and the security of supply.

The military conflict between Russia and Ukraine began in February 2022. Although de jure it represents a conflict between two neighbouring countries, de facto it reflects the re-emergence of the longstanding geopolitical divide between the East and the West and constitutes one of the most significant international developments since the Cold War (Beker-Pucar, 2022). Beyond its humanitarian and security implications, the conflict has generated profound and long-lasting economic repercussions for countries worldwide. Research on the economic consequences of regional conflicts is grounded in several established theoretical frameworks.

The theory of economic interdependence (Keohane & Nye, 2012) suggests that stronger economic ties among countries may reduce the likelihood of armed conflict while simultaneously increasing their exposure to external geopolitical shocks. According to Stiglitz (2016), well-intentioned efforts toward economic integration may ultimately fail when policymaking is guided by questionable economic doctrines shaped more by ideology and interests than by empirical evidence and economic science.

In contrast, the economic theory of conflict (Collier, 2007) focuses on the economic causes and consequences of armed conflicts, arguing that wars may generate benefits for certain actors while inflicting substantial damage on the economy as a whole.

For understanding the effects of the war in Ukraine on the Western Balkans, Wallerstein's (2004) world–systems theory is particularly relevant. This

theoretical framework explains how economic shifts occurring within the core of the world system, in this case, the European economies, can have disproportionately strong effects on semi-peripheral regions such as the Western Balkans. From this perspective, it becomes evident why relatively small and open economies are particularly vulnerable to geopolitical developments occurring beyond their national borders.

Although the Western Balkans does not present the same strategic significance for Russia as Ukraine, the region nevertheless remains important for several reasons. Serbia, as the largest and most influential country in the region, is particularly significant (Pribićević & Buturović, 2023). Russia's primary strategic objective in the Western Balkans is to prevent the accession of Serbia and Bosnia and Herzegovina to NATO, as well as their membership in the EU, since such possible integration into Western political and security structures would substantially weaken Moscow's influence in Southeast Europe (Bieber, 2019; Samorukov, 2019).

For many years, Europe developed its energy strategy around imports of natural gas, with Russia serving as its dominant supplier. This relationship was founded upon mutual economic benefits and interdependence. European countries secured a stable and relatively inexpensive energy source, while Russia gained a reliable export market for its natural gas. Over time, however, this cooperation created a high degree of dependence, which proved to be a major challenge during periods of political instability and geopolitical conflict.

The war in Ukraine marked a turning point in Europe's natural gas supply system. Supply disruptions, sharp increases in energy prices and heightened market uncertainty revealed the risks associated with dependence on a single supplier (Bechev, 2023). In response, the European Union initiated a process of supply diversification aimed at gradually reducing its dependence on Russian natural gas. Nevertheless, this transition is both complex and costly, requiring substantial financial investment and the development of new energy infrastructure.

Within this context, the Western Balkans occupies a unique position. The countries of the region are characterised by limited energy self-sufficiency and a distinct dependence on Russian natural gas, which, in most cases, remains their principal supplier. Moreover, the region relies on only one or two major gas corridors, significantly increasing its vulnerability.

A particular challenge is the region's underdeveloped energy infrastructure. The limited number of gas pipelines, insufficient cross-border interconnections, and inadequate storage capacity additionally reduce the ability of these countries to react rapidly to interruptions in gas supply. Hence, any alteration in gas supply, whether caused by political decisions or market developments, has a direct impact on economy and stability of these countries.

Beside its economic significance, natural gas supply also has a strong political dimension. The control over energy resources and transport routes enables supplier countries to exercise influence over the countries that depend upon them. In this sense, natural gas has become an instrument of foreign policy, i.e. a means of pursuing broader geopolitical objectives. This phenomenon is particularly evident in the Western Balkans region, where the interests of multiple international actors intersect.

The objective of this paper is to analyse an energy source supply, natural gas supply, under the conditions created by the Russia–Ukraine war, with particular emphasis on the Western Balkans. The study examines the degree of energy dependence across individual countries, the structure of energy supply as well as the principal challenges the region faces in terms of energy security. Particular attention is devoted to opportunities for supply diversification and the future development of the regional energy sector.

By examining these issues, the paper seeks to provide a comprehensive insight into the role of natural gas as both an energy resource and a geopolitical factor, while highlighting the need to strengthen the energy independence and resilience of the Western Balkan countries in the face of contemporary global challenges.

An analysis of energy dependence in the Western Balkans, with particular reference to the Republic of Serbia, represents an essential field of research for evaluating economic, security, and regulatory implications of geopolitical crises, as well as identifying possible strategies and enhancing the long-term sustainability of national energy systems.

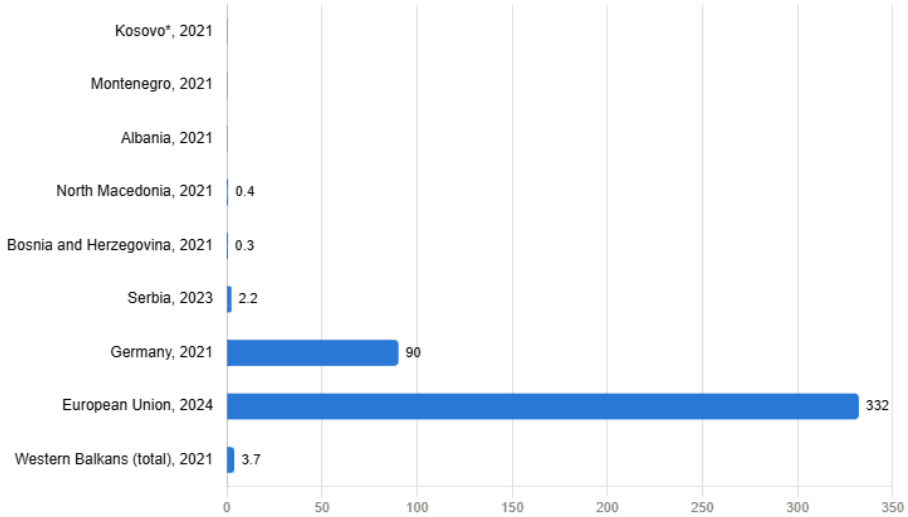
This paper relies on a broad range of data, including macroeconomic indicators, reports issued by international financial institutions and academic literature. Particular emphasis is placed on comparative data analysis, enabling the assessment of varying degrees of resilience demonstrated by Western Balkan economies during the periods of constrained energy supply during the Russia–Ukraine war. Understanding these economic consequences is of critical importance for policymakers, investors, and the academic community alike.

TOTAL NATURAL GAS CONSUMPTION IN THE REGION

The Western Balkans is a relatively small region in terms of total natural gas consumption, but its importance extends far beyond the quantities consumed. According to available data, total natural gas consumption in the Western Balkans amounted to approximately 2.7–4 billion cubic metres (bcm) annually in 2021, with Serbia accounting for roughly two-thirds of this volume.

For comparison, this amount represents only about 4% of Germany's natural gas consumption, Germany being one of Europe's largest economies. This clearly indicates that the Western Balkans is not a major gas consumer, either globally or within the European context. Nevertheless, despite its relatively low level of consumption, the region possesses considerable geostrategic importance due to its geographical position and its role as a transit corridor in regional energy flows.

Figure 1 - Natural gas consumption, in bcm, in the European Union and the Western Balkan countries, based on available data.



Source: Gallop et al. (2023).

Another important characteristic of the region is the uneven consumption across individual countries. While Serbia, Bosnia and Herzegovina, and North Macedonia use natural gas primarily for heating and industrial purposes, countries such as Albania and Montenegro have virtually no developed gas sector. Thus, overall consumption is not only relatively low but also structurally uneven across the region.

The difference becomes even more pronounced when the Western Balkans is compared with the European Union. According to recent data, total natural gas consumption in the European Union amounted to approximately 332 billion cubic metres in 2024, several times higher than that of the Western Balkans. This comparison indicates that the Western Balkans accounts for only a marginal share of total European gas consumption. (Balkan Insight (2023)

Nevertheless, despite its relatively limited consumption, the region remains highly significant for several reasons. The geographical position of

the Western Balkans makes it an important transit corridor for gas pipelines connecting the East and the West. Dependence on imported energy, particularly from Russia, makes the countries of the region highly sensitive to political and economic shifts. Further investment in gas pipeline infrastructure could additionally increase the region's importance in the future.

It is particularly important to emphasize that low consumption does not imply low vulnerability. On the contrary, owing to limited supply sources and insufficiently developed infrastructure, Western Balkan countries are often exposed to greater risks than larger economies with more diversified energy sources. Although the Western Balkans remains a relatively small gas consumer in European terms, its importance derives from its geopolitical position, dependence on imports, and potential role in future energy flows. For this reason, natural gas supply in the region has far greater significance than might be inferred solely from consumption volumes (Bašić & Pantelić, 2023).

Table 1 - Natural gas supply, transformation, and consumption according to EUROSTAT data.

Region	November 2025	January 2026
European Union	1,059,985.802	1,463,967.409
Montenegro	0	0
North Macedonia	1,542.420	1,852.970
Serbia	12,891.00	16,151.00
Bosnia and Herzegovina	0	0

Source: EUROSTAT data.

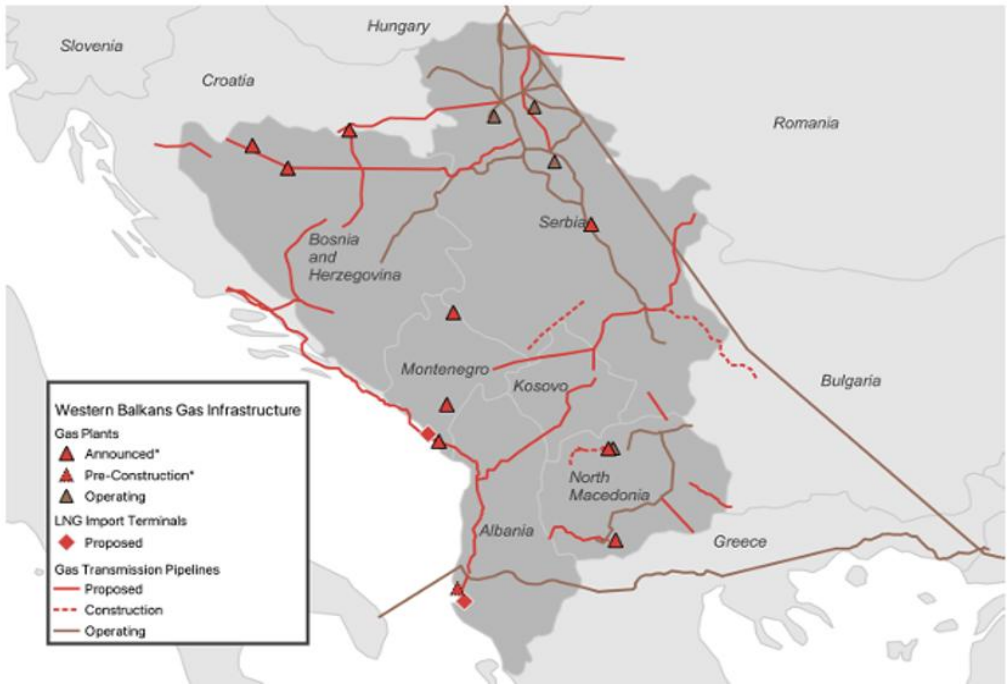
RUSSIA AS THE DOMINANT SUPPLIER

At present, it is difficult to predict how long the military operations will last, and it is unrealistic to expect that the conflict between Russia and the West will end in the near future. In the initial phase of the conflict, the most substantial economic difficulties are likely to affect Western countries,

particularly those that remain highly dependent on Russian energy supplies (Bašić & Pantelić, 2023)[1].

A defining characteristic of the natural gas market in the Western Balkans is its marked dependence on a single dominant supplier—the Russian Federation. In most countries of the region, the natural gas used by households, industry, and the energy sector originates predominantly from Russia. Consequently, natural gas represents not only an economic, but also an important geopolitical factor. Historically, this dependence is the result of long-term supply contracts, geographical proximity, and infrastructure designed primarily to accommodate gas deliveries from the east. Pipelines passing through the region, such as TurkStream and its extensions, commonly referred to as the Balkan Stream, have reinforced this dependence by enabling the direct transportation of Russian gas to consumers in Southeast Europe.

Image 1 - Gas infrastructure under development in the Western Balkans



Most Western Balkan countries lack substantial alternative sources of natural gas supply. Although diversification efforts are under way, such as the construction of interconnectors, connections to liquefied natural gas (LNG)

[1] Pribicevic, O., Buturović, Ž. (2023). Rat u Ukrajini – Srbija ponovo na razmeđu između Istoka i Zapada. *Demokratske promene u Srbiji* (ur. Bašić & Pantelić). Beograd: Institut društvenih nauka.

terminals, and the development of renewable energy sources, these processes remain at an early stage and are not yet capable of fully meeting regional demands or replacing the existing dependence on Russian gas.

It is particularly important to emphasize that this dependence is reflected not only in the volume of imported gas but also in the structure of the market. In many countries of the region, supply is organized by a limited number of companies and long-term contracts, which further reduces market flexibility and the ability to switch suppliers. Such a market structure increases the influence of dominant suppliers compared with markets characterised by a higher degree of competition.

In the context of the war in Ukraine, this supply model has revealed a number of weaknesses. Reduced deliveries, political tensions, and price volatility have exposed the risks associated with reliance on a single dominant partner. Although the Western Balkan countries have not experienced supply interruptions to the same extent as some European Union Member States, the possibility of such scenario remains.

From the perspective of international relations, control over natural gas supply allows countries to exercise a degree of political influence. In the case of Russia, energy resources are frequently regarded as an instrument of foreign policy i.e.as a means of strengthening the country's position in the international scene. Countries that are highly dependent on gas imports may become exposed to external pressures through increased energy vulnerability. Unlike larger European economies, which have access to a broader range of supply sources, such as Norway, the LNG market, and renewable energy, Western Balkan countries have limited capacity to adapt rapidly in the event of a major disruption.

It is also important to stress that the influence of a supplier is not always direct or visible. It may also be revealed through long-term energy strategies, infrastructure investment and partnerships with domestic companies. Thus, energy relations become embedded within a broader political and economic framework that shapes the development of the region (Gallop & Kozybay, 2024).

DEPENDENCE BY COUNTRY

The Western Balkans is characterised by relatively low natural gas consumption compared to larger European economies, yet the region remains highly sensitive to the structure and origin of its energy supply, particularly in relation to Russian gas.

In Serbia, annual natural gas consumption amounts to approximately 2.7 billion cubic metres, of which around 80–90% has been supplied by Russia

via the Balkan Stream pipeline. Natural gas accounts for approximately 12–15% of Serbia's total energy mix, indicating a substantial dependence on a single supplier and potential political vulnerability. Although Serbia has made efforts in recent years to diversify its supply sources, Russia remains the country's dominant natural gas supplier. (OECD 2024)

Bosnia and Herzegovina has relatively low levels of natural gas consumption, with gas accounting for only around 2.8–3.6% of total energy use. Nevertheless, almost 100% of its gas imports have traditionally depended on Russian supply. (RES Foundation 2023) Although the share of gas in the overall energy mix is limited, such total dependence on Russian gas represents a significant security and political risk for Bosnia and Herzegovina.

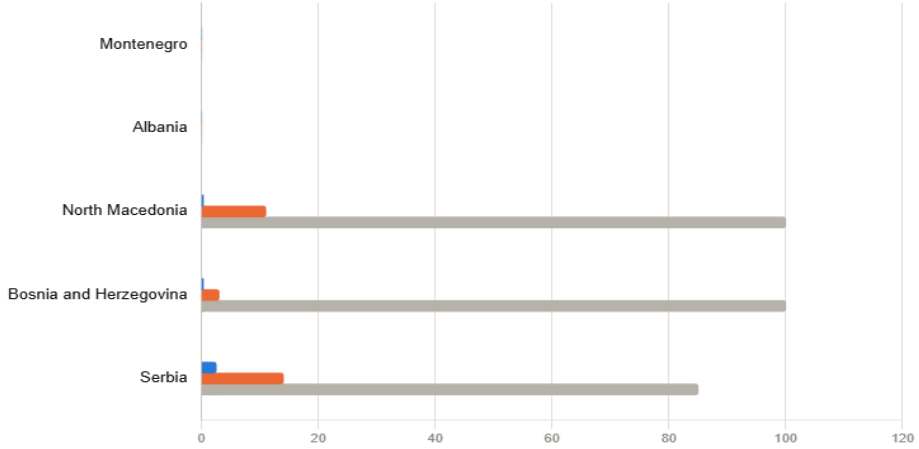
North Macedonia was likewise fully dependent on Russian natural gas prior to 2022, with gas accounting for approximately 11% of its total energy mix. (ISPI 2023) The country has no domestic natural gas production and relies entirely on imports routed through Bulgaria. This has created a high degree of vulnerability to both energy-related and political pressures.

On the other hand, Albania and Montenegro have virtually no developed natural gas sector and do not use natural gas as a major energy source. (Global Energy Monitor & CEE Bankwatch 2023). Albania is almost entirely independent of Russian gas, while Montenegro lacks developed gas infrastructure altogether. Thus, dependence on Russia in the natural gas sector is irrelevant for these two countries.

These data demonstrate that the Western Balkans is highly heterogeneous in terms of energy dependence. Serbia, Bosnia and Herzegovina and North Macedonia are markedly dependent on Russian natural gas, which can be used by Russia as an instrument of political and economic influence. Albania and Montenegro, owing to the absence of gas infrastructure, have little or no dependence on Russian gas, providing them with greater autonomy in energy-related political decisions.

The war in Ukraine has had a particularly significant impact on Serbia because it has narrowed the country's room for maintaining cooperation with both the West and Russia, the policy approach that had previously enabled Serbia to preserve its European integration path while fighting for its territorial integrity. The Western Balkans does not hold the same importance for Russia as Ukraine, but the region remains significant for several reasons. Serbia occupies a particularly prominent position as the largest country in the region. Serbia is almost entirely dependent on the supply of natural gas from Russia (Bašić & Pantelić, 2023).

Figure 2 – The consumption of gas by countries

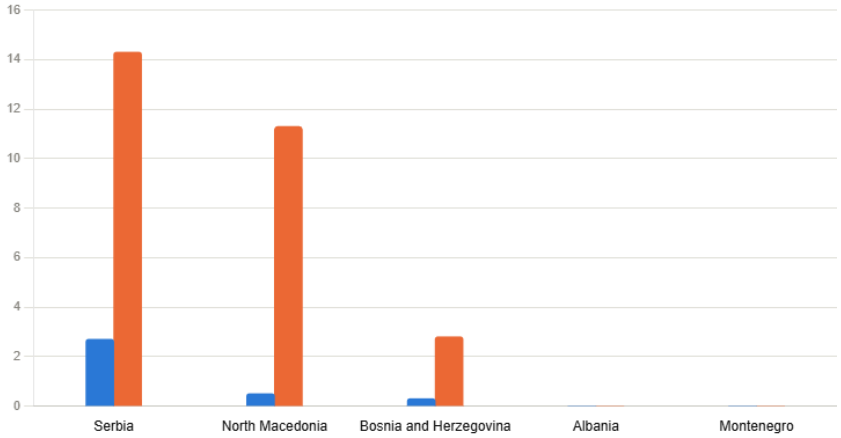


Source: Global Energy Monitor & CEE Bankwatch (2023).

THE ROLE OF NATURAL GAS IN THE ENERGY SYSTEM

Natural gas plays a different role across the energy systems of the Western Balkan countries, which is why its use depends on the level of infrastructure development, national energy policy and historical dependence on external suppliers, particularly Russia. In Serbia and North Macedonia, natural gas accounts for a relatively significant share of the overall energy mix, whereas in the other countries of the region its role is marginal or almost non-existent.

Figure 3 – Share of natural gas in energy systems by countries



Source: Global Energy Monitor & CEE Bankwatch (2023).

In Serbia, natural gas accounts for 14.3% of total energy consumption, reflecting the country's relatively well-developed gas infrastructure and its long-standing reliance on supplies delivered through the TurkStream and Balkan Stream pipelines. Natural gas is used in industrial facilities, electricity production and heating, particularly in larger urban areas. Its importance has been more emphasized in recent years because of the need to replace part of the energy supply derived from more carbon-intensive sources, thereby contributing to the reduction of greenhouse gas emissions. (Western Balkans 2023)

Nevertheless, Serbia remains highly dependent on Russian gas, which represents a significant potential vulnerability in the event of political or economic pressure.

In North Macedonia, natural gas accounts for 11.3% of the energy mix. It is used primarily in industry and for heat generation in the heating systems of urban districts. Since the country has no domestic natural gas production, it is entirely dependent on imports, predominantly from Russia via neighbouring countries, which creates a high degree of dependence. In recent years, the North Macedonian government has launched a number of initiatives aimed at diversifying supply, including the potential import of liquefied natural gas (LNG) and the strengthening of regional gas interconnectors. (ISPI 2023)

In the other Western Balkan countries, the role of natural gas is minimal or practically negligible. In Bosnia and Herzegovina, gas accounts for only approximately 2.8% of the total energy mix, and its use is limited to a number of industrial facilities and district-heating plants in larger cities. Low levels of consumption are partly attributable to the absence of well-developed gas infrastructure and the high investment costs associated with network expansion.

Albania and Montenegro make virtually no use of natural gas within their energy systems. Albania relies predominantly on hydropower for electricity generation, while Montenegro primarily uses coal and renewable energy sources and has no developed gas infrastructure. The marginal role of natural gas in these countries contributes to their independence from Russia in this particular sector, but it also limits their potential for a rapid transition toward lower-carbon energy sources, including natural gas. (Western Balkans 2023)

The role of natural gas across the Western Balkans therefore varies considerably and is shaped by historical infrastructure, political relations, and national energy-security strategies. Serbia and North Macedonia are characterised by relatively high shares of natural gas and potential vulnerability due to the import dependence, whereas the remaining countries have only a limited role for gas and potentially greater flexibility in shaping their energy transition.

Table 2 - Gas-fired power plant projects under development in the Western Balkans

Project	Location	Capacity (MW)	Status
Vlora Power Station[2]	Albania, Vlore	97	Completed
Morava Power Station	Serbia, Svilajnac	120	Completed
Banja Luka Power Station	Bosnia and Herzegovina, Banja Luka	600	Completed
Prijedor Power Station	Bosnia and Herzegovina, Prijedor	600	Completed
Bosanski Brod Power Station	Bosnia and Herzegovina, Bosanski Brod	100	Completed
Bar Gas Power Station	Montenegro, Bar	50	Completed
Pljevlja Gas Power Station	Montenegro, Pljevlja	200	Completed
Podgorica Gas Power Station	Montenegro, Podgorica	150	Completed
Bitola Gas Power Station	North Macedonia, Bitola	250	Completed
Skopje Power Station	North Macedonia, Skopje	150	Completed

Source: Global Energy Monitor; Western Balkans.

NATURAL GAS SUPPLY IN THE WESTERN BALKANS FOLLOWING THE OUTBREAK OF THE WAR IN UKRAINE

The outbreak of the war in Ukraine on 24 February 2022 substantially altered the energy landscape in both Europe and the Western Balkans. Russian natural gas deliveries, which had previously dominated supply across much of Southeast Europe, became subject to restrictions, political tensions, and a substantial reorientation of energy markets. These developments significantly affected the manner in which Western Balkan countries organised their gas

[2] Vlora Power Station is an existing object, but has never operated due to technical issues

supply amid growing instability in European energy markets (Corsello & Tagliabracci, 2023)[3].

Prior to the war in Ukraine, most natural gas consumed in the Western Balkans originated in Russia and was delivered through major international pipelines, principally TurkStream and its Balkan Stream extension. These systems enabled Russian gas to be transported through Turkey and Bulgaria to Serbia, North Macedonia, and, partly, Bosnia and Herzegovina. Consequently, the region developed a high degree of dependence on a single supplier, creating substantial vulnerability in the event of changes in political relations or disruptions in supply.

As the war in Ukraine escalated, it became clear that Europe, including the Western Balkans, would have to reassess its energy relationships. Many European Union countries experienced a sharp reduction in demand for Russian gas while intensifying efforts to secure alternative supplies, primarily through the imports of liquefied natural gas and Azerbaijani gas delivered via the Trans Adriatic Pipeline as part of the Southern Gas Corridor. This approach was aimed at reducing dependence on Russian supply and, in turn, influenced the regional orientation of energy policy.

In Serbia, which is the largest natural gas consumer in the Western Balkans, the transition has been gradual, but visible. Although Serbia has remained heavily dependent on Russian gas since 2022, a process of gradual diversification has begun. In 2021, more than 90% of the country's natural gas originated in Russia, whereas estimates for 2024–2025 indicate that the dependence declined to approximately 82%, reflecting the introduction of new supply sources and a partial shift toward Azerbaijani gas delivered through the Southern Gas Corridor (Baranov, 2025).

In September 2024, Serbia and Azerbaijan signed an urgent agreement covering additional gas supplies. This arrangement enabled the use of approximately one million cubic metres of Azerbaijani gas per day during the winter of 2024/2025, with the objective of reducing Serbia's dependence on Russia. Part of these volumes was delivered through gas infrastructure connecting Bulgaria and Serbia to the southern route, including the Trans Adriatic Pipeline.

North Macedonia has also changed its supply source since the outbreak of the war. Prior to 2022, the country was entirely dependent on Russian natural gas. Since the beginning of the conflict, however, it has gradually turned toward alternative sources, including limited volumes of Azerbaijani gas delivered through intermediary commercial and infrastructure

[3] Assessing the pass-through of energy prices to inflation in the euro area https://ideas.repec.org/p/bdi/opques/qef_745_23.html , accessed: 26. 3. 2026.

arrangements. New gas interconnectors with Greece and Bulgaria, including a project to be completed by 2027, are intended to provide direct access to the Trans Adriatic Pipeline network and thus facilitate the delivery of Azerbaijani gas. These projects are expected to reduce dependence on Russian gas supplies (Gallop et al., 2024).

In Bosnia and Herzegovina, natural gas continues to account for only a small share of the overall energy mix. Nevertheless, the country is not immune to supply-related changes. Bosnia and Herzegovina has long relied on Russian deliveries via the Balkan Stream system. However, as in other parts of the region, infrastructure diversification projects and new agreements with non-Russian suppliers are currently being developed in order to improve the security of supply in the event of disruption (European Commission, 2024).

Albania and Montenegro, which have virtually no developed natural gas sector, have not undergone the same type of transition because their gas consumption was negligible before the war and has remained so since. On the one hand, this has made them more resilient to disruptions in gas supply. On the other hand, it has left them relatively detached from deeper regional gas market integration (Global Energy Monitor & CEE Bankwatch, 2023).

One of the key factors affecting the gas supply has been the development and functionality of major interconnectors and infrastructure projects enabling greater diversification. Of particular importance are gas systems linking Western Balkan countries to the Southern Gas Corridor. This corridor, which includes the Trans Adriatic Pipeline, enables Azerbaijani gas to be transported through Turkey, Greece, and Albania to Italy and creates the possibility for Western Balkan countries, particularly those that become interconnected in the future, to access alternative gas supplies outside Russian-controlled supply routes.

The EU and the United States have also supported projects aimed at strengthening regional energy security and reducing dependence on Russian supply. This support has been both political and financial, with substantial investment in gas infrastructure which facilitates the access to LNG and gas from alternative suppliers. These diversification strategies are intended not merely to replace Russian gas temporarily, but to restructure the Western Balkan energy market over the longer term so that it becomes more resilient to external shocks.

Despite these efforts, Russian influence remains significant. Agreements concerning the continuation of supply and extensions of contracts with Russian companies, as well as the political relations surrounding such arrangements, demonstrate that the transition is neither straightforward nor free from market and political complications. In Serbia, for example, negotiations have taken place concerning the extension of supply agreements with Russia. This indicates that, although diversification is progressing, it

remains incomplete and currently represents a compromise between the security of supply and broader political context.

Table 3 - Natural gas supply in the Western Balkans: 2021 vs. 2024/2025

Country	Supply 2021 (Russian gas %)	Supply 2024/2025 (Russian gas %)	Note
Serbia	~90%	~82%	Partially diversified
North Macedonia	~100%	~90%	Beginning of diversification
Bosnia and Herzegovina	~95%	~90–95%	Slower progress
Albania	0%	0%	No gas
Montenegro	0%	0%	No gas

Source: Baranov (2025).

Naftna Industrija Srbije (NIS) is one of the principal actors in Serbia's energy sector and in the wider Western Balkan region. Established in 1949 as a state-owned enterprise, the company gradually expanded its activities to include the exploration, production and distribution of oil and natural gas, as well as petroleum refining and the provision of energy services (Baranov, 2025).

Today, NIS is the largest producer of oil and natural gas in Serbia. Its portfolio includes oil extraction, the production of petrol, diesel fuel, and liquefied gases, as well as the development and maintenance of a network of filling stations covering Serbia and parts of the wider region (Gallop et al., 2024).

Following its acquisition by the Russian company Gazprom Neft in 2008, NIS entered a period of modernisation and diversification. The Russian investor provided both financial and technical support, enabling the introduction of modern technologies in oil production and refining, as well as the expansion of storage capacity and transport infrastructure (Gallop et al., 2024).

Although NIS is formally a Serbian company, Russian influence over its management and strategic orientation remains significant. This links Serbia more closely to global energy flows and affects the political dynamics of the region.

NIS plays a major role in maintaining Serbia's energy security. The company supplies a substantial share of domestic oil and gas demand and serves both public-sector and industrial consumers. In addition, NIS is actively involved in renewable-energy development, including solar and wind-energy

projects, as well as initiatives aimed at improving energy efficiency and reducing carbon dioxide emissions in production processes (Gallop et al., 2024).

Nevertheless, the company faces a range of challenges. Geopolitical tensions, energy crises in Europe and shifts in global oil and gas markets all affect its stability. During 2022–2023, the war in Ukraine required NIS to adapt its supply chains and search for alternative sources of oil and natural gas while simultaneously maintaining stable supplies to the domestic market. Despite these challenges, NIS remains a strategic asset for Serbia, with considerable importance for the national economy, energy security, and regional stability.

Sanctions afflicting Serbia, particularly in the context of its energy and financial ties with Russia, became increasingly relevant after the outbreak of the war in Ukraine in 2022. Restrictions imposed by the European Union and the United States on Russian oil and gas indirectly affected Serbia because of its reliance on Russian companies, including Gazprom and its influence over NIS (Gallop et al., 2024).

This has created an urgent need for policy measures aimed at diversifying Serbia's energy supply. Serbia responded through a multi-track approach. First, the country began developing alternative natural gas supply routes, including imports through the Trans Adriatic Pipeline and potentially via LNG terminals located in neighbouring countries (European Commission, 2024).

Serbia has also accelerated efforts to improve energy efficiency, reduce gas consumption in the public sector and industry and increase the share of renewable energy sources in the national energy mix (Bruegel, 2024).

Finally, the government has intensified diplomatic engagement with regional and European partners in order to maintain security of supply and prevent disruptions in distribution. These activities include negotiations concerning transit routes as well as participation in regional initiatives aimed at coordinating energy-security policies (Gallop et al., 2024).

CONCLUSION

Natural gas supply in the Western Balkans during the war in Ukraine has demonstrated the extent to which energy security is a critical factor for both national economies and regional stability.

The countries of the region, including Serbia, North Macedonia, Bosnia and Herzegovina, Montenegro and Albania, entered the crisis with differing degrees of dependence on Russian natural gas, making energy supply a potential instrument of Russian political influence. Prior to the war in

Ukraine, Russia, primarily through companies such as Gazprom, supplied a substantial share of the region's natural gas imports, which provided relatively stable and affordable energy supplies, but it also created a degree of dependence that proved to be a significant risk under conditions of geopolitical crisis.

Serbia, as the largest natural gas consumer in the Balkans, relied on Russia for approximately 85–90% of its gas imports. While this ensured short-term supply stability, it simultaneously increased the country's political vulnerability. North Macedonia was entirely dependent on Russian gas, while Bosnia and Herzegovina was also almost fully reliant on Russian supplies, despite the relatively small share of natural gas in its total energy mix. Albania and Montenegro made virtually no use of natural gas, which gave them a greater degree of energy independence. These differences in levels of dependence demonstrated the considerable heterogeneity of the region, both in terms of consumption and in terms of the capacity to respond to external shocks.

The war in Ukraine brought substantial changes to gas supply patterns in 2022. European Union restrictions on Russian oil and gas had an indirect impact on the Western Balkan countries. Serbia, which was particularly exposed due to its high dependence on Russian energy, was compelled to seek alternative supply routes and accelerate the development of domestic energy infrastructure. In this context, projects such as the Trans Adriatic Pipeline and potential LNG terminals assumed greater importance as the instruments of supply diversification. Government support and the role of NIS in securing gas supplies also proved critical in maintaining continuity and stability of supply.

At the same time, countries in the region accelerated efforts to reduce energy consumption and increase the share of renewable energy sources. Serbia introduced programmes of improving energy efficiency, while North Macedonia sought to expand the role of solar and wind energy in its energy mix. These measures form part of a long-term strategy aimed at not only mitigating the risks associated with dependence on Russian gas but also bringing the region closer to European energy standards and climate objectives.

From a geopolitical perspective, this situation has demonstrated that energy remains a powerful instrument in the hands of major international actors. Russia has used natural gas as an instrument of hybrid pressure. However, it has been demonstrated that the region is not powerless. Diversification of supply sources, investment in infrastructure and regional cooperation enable Western Balkan countries to reduce vulnerability and increase energy security. Although the transition remains ongoing, positive developments are already visible, particularly in the acceleration of

investments in renewable energy and the establishment of alternative supply routes.

The war in Ukraine and the accompanying energy crisis have also underscored the importance of institutional and political coordination. Western Balkan countries need to strengthen cooperation through regional initiatives, information sharing and coordinated contingency planning. At the same time, legislative and regulatory frameworks must be improved further in order to ensure energy-system stability and provide greater investment certainty for private sector participants.

The war in Ukraine has demonstrated that natural gas supply in the Western Balkans can no longer be regarded solely as an economic issue, but an important dimension of national and regional security. Countries that succeed in diversifying their supply sources, upgrading energy infrastructure and integrating renewable energy will be more resilient to crises and better positioned in international energy and political relations. Natural gas supply is therefore evolving from a conventional commercial arrangement into an instrument of geopolitical strategy and the responsibility of regional governments is to ensure that this resource is a means of stability rather than dependence.

REZIME
ENERGETSKA BEZBEDNOST I DIVERZIFIKACIJA SNABDEVANJA PRIRODNIM GASOM ZAPADNOG BALKANA POSLE 2022. GODINE U KONTEKSTU KRIZE U UKRAJINI

Rad je posvećen analizi uticaja poremećaja u energetskom sektoru izazvanih ratnim nemirima Rusije i Ukrajine, koji se dešavaju na tlu evropskog kontinenta od 2022. godine. U fokusu istraživanja je uticaj energetske inflacije na ukupnu infalciju zemalja članica Evropske Unije sa posebnim fokusom na Zapadni Balkan i Srbiju. Analizom dostupnog sadržaja, ekonomskih pokazatelja, relevantnih izveštaja statistika, sagledavaju se promene do kojih je došlo usled promene u snabdevanju energentima. Izveštaji ukazuju na snažne cenovne šokove, inflacione pritiske i preorjentaciju trgovine uz ubrzane energetske diversifikacije i integracije sa EU. Tenzije između Rusije i Ukrajine izazvale su promene u energetskom sektoru i prouzrokovale nestašicu energenata u regionu. Uočene su razlike u ekonomskoj otpornosti, ekonomije sa manjom zavisnošću od ruskih energeneta i većom diversifikacijom pokazale su veću stabilnost. U radu se prati i analizira učešće i potrošnja energenata od strane stanovništva, komparativna analiza ukupne inflacije i infalcije ostvarene u energetskom sektoru. Istražuju se izazovi pred kojima se nalaze kreatori ekonomskih politika u domenu izvora energenata i

daju se određene preporuke za poboljšanja sa aspetka nesmetanog snabdevanja energentom i uticaja na inflaciju.

Ključne reči: energetski resursi; Zapadni Balkan; Evropska unija; Srbija; diverzifikacija; kriza u Ukrajini

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