



EU's energy diversification strategy in response to dependency on Russian energy Challenges, Opportunities and Strategic Implications

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Abstract

The European Union's dependence on Russia energy has long been a critical concern for its energy security, particularly following the 2014 Russia-Ukraine crisis and the resulting geopolitical tensions. This paper has explored the EU's energy diversification strategy within the broader context of the New Great Game in Eurasia, focusing on the challenges, opportunities and strategic implications arising from evolving energy dynamics. This study has adopted qualitative research design based on secondary sources. The findings of the study indicated that diversification has increased the EU's energy resilience and reduced dependence on Russia energy supplies, while simultaneously reshaping geopolitical relations across Eurasia. The study also highlights the growing strategic significance of Central Asia and the increasing influence of China in regional energy politics. The study concluded that although diversification presents economic and geopolitical challenges, it strengthens the EU's long-term energy security and strategic autonomy in an increasingly competitive Eurasian energy landscape.

Keywords: Energy Security, European Union, Energy Diversification, Eurasia, Russia, New Great Game, Geopolitics

Introduction

Background of the Study

Energy security is widely considered a strategic objective in international relations. Energy security refers to the reliable and affordable access to energy resources, which is crucial for the economic and social development of nations. As the global economy becomes increasingly interconnected, ensuring a stable and reliable energy supply has emerged as a fundamental priority for nations worldwide. With nations recognising the pivotal role of energy in sustaining economic growth, ensuring national security, and addressing environmental concerns, the pursuit of energy security is imperative to integrate environmental considerations into the strategic framework, acknowledging the interconnectedness of energy policies and global environmental challenges (Streimikiene et al., 2022).

Nations heavily reliant on external sources for their energy needs face inherent economic vulnerabilities (Sueyoshi et al., 2023). Fluctuations in energy prices or disruptions in the supply chain can have cascading effects on various sectors, leading to economic instability. The 1970s oil crises serve as a poignant example of how sudden shifts in energy dynamics can trigger recessions and economic downturns. To mitigate the risks associated with resource dependence, countries are adopting diversification strategies. This involves diversifying energy sources, investing in renewable technologies, and enhancing domestic production capabilities. Diversification not only ensures a more resilient energy infrastructure but also fosters economic stability by reducing susceptibility to external shocks (Zhao et al., 2023).

EU dependence on Russian oil and natural gas

Providing a stable energy supply is often described in terms of a "trilemma"- a balance between supply security, environmental sustainability, and affordability. Of the three pillars of energy supply, security is the easiest to take for granted. Supply seems fine until it isn't. Security of fossil fuel supply is particularly easy to ignore in countries that are striving to greatly reduce their fossil fuel consumption for climate reasons. The political focus is on building renewable energy and zero-carbon systems, and mitigating the economic, social, and political costs of transition; the thought was that the existing system would take care of itself until it was phased out. This was the case for much of Europe until few years ago. Russia's full-scale



invasion of Ukraine on February 24, 2022, shocked Europeans into realizing that they could no longer take the security of their fossil fuel supply for granted. The assumption had been that Europe and Russia were locked into a mutually beneficial, secure relationship, since Europe needed gas and Russia had no infrastructure to sell that gas anywhere else. That belief turned out to be wrong. When the war began, Europe was importing a variety of energy products from Russia, including crude oil and oil products, uranium products, coal, and liquefied natural gas (LNG). But the Kremlin's sharpest energy weapon was natural gas, delivered by the state-backed gas monopolist Gazprom via pipelines and based on long-term contracts. Europe needs gas for power generation, household heating, and industrial processes.

Before the invasion, more than 40% of Europe's imported natural gas came from Russia, its single largest supplier, delivered via four main pipelines (Kardas, 2023). Some European countries relied on Russia for more than 80% of their gas supply, including Austria and Latvia. But Germany was by far Russia's largest gas customer by volume, importing nearly twice the volume of Italy, the next largest customer. "Oil and gas combined account for 60% of primary energy," wrote the Economist in May 2022, "and Russia has long been the biggest supply of both (Statista 2026). On the eve of the war in Ukraine, it provided a third of Germany's oil, around half its coal imports, and more than half its gas."

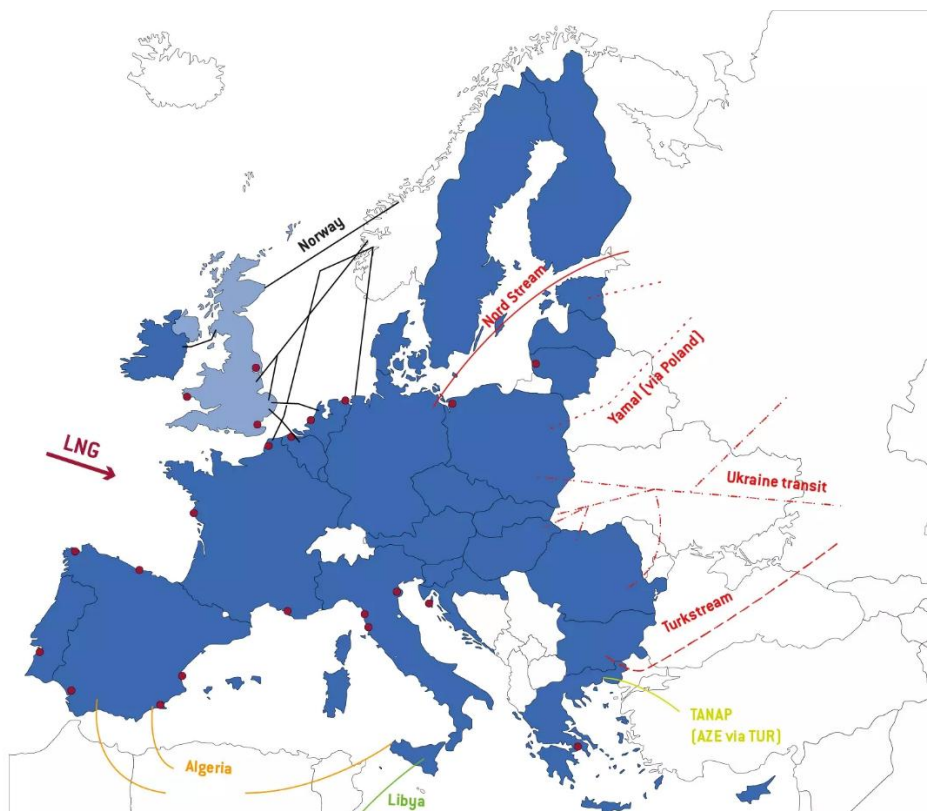


Figure: Gas Flows to Europe. Source: Bruegel

Impact of the 2014 Ukraine crisis and subsequent geopolitical tensions

Geopolitical tensions between NATO and Russia have been high for some time. Russia's invasion of Ukraine has NATO-Russia-relations at their most precarious since the cold war. The Russian invasion of Ukraine has not only initiated a global humanitarian crisis, it's given rise to greater risk exposures in capital flows, trade and commodity markets worldwide.

The Russian annexation of Crimea in 2014, followed by the imposition of Western sanctions and Russian counter-sanctions, represented a profound and enduring shock to the economic relationship between Russia, Ukraine, and the wider global trading system. Energy and natural market (Goldthau and Boersma,



2014; Van de Graaf and Colgan, 2017), agriculture trade, especially grain, terms of trade, export price, and import price, endowment factors of production, including natural resources, sanctions and destabilization, and geopolitical alignment as well as, economic and cultural ties (Crozet and Hinz, 2020; Barry, 2014; Rywkin, 2014; Samokhvalov, 2015). Numerous researchers have examined the recent ongoing conflict between Russia and Ukraine, such as its effects on various economic and financial aspects. These include impacts on stock, bond, and metal markets (Boungou and Yatié, 2022; Salachas et al., 2024), as well as on agriculture, energy, and the oil sector more broadly (Biswas et al., 2024; Fang and Shao, 2022).

Since Russia's invasion of Ukraine, the EU-Russia gas interdependency has been shaken to the core. EU authorities have implemented a strategy to phase-out the gas dependency from Russia importing massive amounts of LNG. Main strategic goals have been to secure energy supplies at affordable prices, safeguarding the common market. However, results have been rather ambiguous, and the EU has been paying heavy costs, with the LNG diversification strategy countering core values and principles shaping the EU energy policymaking (Sassi, 2025).

The EU has dropped its share of Russian gas imports from 45% to 19%, thanks to the REPowerEU Plan, launched in May 2022 to reduce the EU's dependency on Russian energy. However, the EU saw a rebound in Russian gas imports in 2024. The European Commission has therefore presented a roadmap to ensure the EU fully ends its dependency on Russian energy, while ensuring stable energy supplies and prices across the EU.

Statement of the Problem

The European Union's heavy reliance on Russian energy highlighted major weaknesses during the 2014 Ukraine crisis and ensuing tensions. Though the EU has tried to diversify, how effective these strategies are and what they mean in the larger picture of Eurasian geopolitics is unclear. So, this study looks at the challenges and strategic effects of the EU's diversification attempts in the midst of the New Great Game in Eurasia.

Objectives

- To examine the EU's energy diversification strategy.
- To analyze challenges and opportunities associated with diversification.
- To evaluate the strategic implications of Eurasian energy competition.

Significance of the Study

This study shows how the European Union has tackled changing energy security issues via diversification since 2014. It looks at the strategic impact of energy competition in Eurasia too. The insights are helpful for policymakers, researchers and those studying energy security and international relations.

Literature Review

The 2014 conflict acted as a compound shock, but its transmission mechanisms differed starkly for Russia and Ukraine. Our analysis is grounded in three interconnected theoretical frameworks that capture these distinct channels. First, the gravity model of trade (Anderson and van Wincoop, 2003) provides the foundational logic: bilateral trade is a function of economic mass and inversely related to trade costs. Geopolitical conflict drastically increases these costs. For Russia, this was not primarily about physical distance but about policy-induced costs, specifically, Western sanctions that targeted technology transfers and financial access (Hufbauer et al., 2007). These "smart sanctions" were designed to cripple capital-intensive, hightech sectors like machinery (HS 84) by restricting access to key inputs from the EU and US. For Ukraine, the cost increase was more direct: physical destruction of infrastructure, disruption of logistics routes, and the sudden loss of its largest export market, Russia, which effectively created an infinite trade cost with a major partner. Second, economic sanctions theory (Kaempfer and Lowenberg, 2007), helps differentiate the shocks. Russia experienced a concerted campaign of external economic



coercion aimed at changing its political behavior. The sanctions on dual-use goods and finance were intended to create a “technology shock,” severing its machinery sector from global innovation networks and forcing costly and often inferior substitutions (Gurvich and Prilepskiy, 2015). Conversely, Ukraine was not the primary target of these sanctions but became a collateral casualty. Its trade collapse was driven by the loss of market access to Russia (a counter-sanction effect) and the direct physical and economic devastation of war, a “supply shock.” Ukraine’s subsequent trade reorientation toward the EU under the Deep and Comprehensive Free Trade Area (DCFTA) represents a resilience strategy predicted by supply chain diversification theory (Choi and Krause, 2006). Third, geopolitical risk (GPR) theory (Caldara et al., 2018) encapsulates the overarching uncertainty that inhibits investment and trade. The conflict generated “hot” GPR, leading to currency volatility, capital flight, and a freezing of long-term contracts. For Russia’s import-dependent pharmaceutical sector (HS 30), this risk, compounded by sanctions on financial transactions and active pharmaceutical ingredients (APIs), threatened public health by restricting access to essential medicines and advanced drugs. For Ukraine, GPR manifested as the direct physical risk to production facilities and supply chains, deterring foreign investment needed for both machinery and pharmaceutical production.

Concept of Energy Security



Figure: The 4A’s of Energy Security

Energy security is the capability to establish an efficient, sustainable, and affordable energy system that meets the demands of people’s lives and their daily activities. Per the International Energy Agency (IEA), energy security has two main aspects: long-term and short-term energy security. The former deals with investments on energy supply and how it connects to timely economic developments and environmental needs. The latter, on the other hand, mainly tackles how the energy system is able to carry out prompt responses to sudden changes in the energy supply and demand cycle.

As a policy problem, energy security emerged in the early 20th century in connection with supplying oil for armies (Yergin, 1991). Academic reflections on energy security date back to the 1960s (e.g. Lubell, 1961) and came of age with the oil crises of the 1970s. In the late 1980s and 90s, the academic interest in energy security declined following the stabilization of oil prices and the receding threat of political embargoes. It re-emerged in the 2000s driven by the rising demand in Asia, disruptions of gas supplies in Europe, and the pressure to de-carbonize energy systems (Yergin, 2006, Hancock and Vivoda, 2014).

However, there is an important difference between contemporary and ‘classic’ energy security studies. In the 1970s and 80s, energy security meant stable supply of cheap oil under threats of embargoes and price manipulations by exporters (Yergin, 1988). In contrast, contemporary energy security challenges extend beyond oil supplies and encompass a wider range of issues (Yergin, 2006). Moreover, energy security is

now closely entangled with other energy policy problems such as providing equitable access to modern energy and mitigating climate change (Goldthau, 2011). Thus the concept of energy security implicit in the classic studies has become a subject of intense re-examination.

The four As of energy security (availability, affordability, accessibility and acceptability) are a frequent starting point of contemporary energy security studies. Two of the four As – availability and affordability – prominently featured already in the classic energy security studies (Yergin, 1988) and still remain at heart of the International Energy Agency's mainstream definition of energy security “as the uninterrupted availability of energy sources at an affordable price” (IEA, 2014). The other two As – accessibility and acceptability – have a more complex history. Both were among the global energy goals proclaimed by the World Energy Council⁵ in its Millennium Declaration (WEC, 2000) but were not connected to energy security until the 2007 APERC report.

Access to energy affects the provision and sustainability of humans' basic needs. Apart from that, it also contributes to a country's economic growth, political stability, and overall development and security of other sectors such as agriculture and manufacturing. The rapid growth of energy demand brought about by economic expansion, population growth, new energy uses, and income growth makes energy security a pressing concern. This is why countries make it a goal to ensure that their economies will function without disruptions in energy supply, providing people with adequate, reliable, and affordable supplies of modern and clean energy.

EU-Russia Energy Interdependence

The energy relationship between Russia and the European Union (EU) has undergone seismic changes since 2022. For over half a century, energy trade had been the cornerstone of the economic relationship between the EU (and its predecessor the European Economic Community) and Russia (until 1991, the Soviet Union) (Högselius 2013). After the end of the Cold War, EU-Russia energy relations expanded further, in line with the liberal logic that closer economic ties would have spillovers in the political arena, thereby creating and consolidating a comprehensive partnership. In 2004, the accession of a few East-Central European member states that were wary of energy dependence on Russia, Poland and the Baltic States in particular, introduced a more critical line of arguments vis-a-vis Moscow in the EU, but remained largely a minority voice until 2022.

This changed radically in February 2022. Russia's attack on Ukraine shattered the widespread belief among Western European elites that a large-scale war between Russia and Ukraine would not happen and that a land war in the heart of Europe was anachronistic in the twenty-first century. The war caused geopolitical and market turbulence on a continental, and arguably global scale. It aggravated the post-Covid energy crisis and pushed energy prices in Europe (and beyond) to unprecedented heights in recent history. It created a geopolitical division in Eastern Europe that was reminiscent of the Cold War, with a “new iron curtain” now running from Lapland through the EU's borders with Russia and Belarus and the mining areas and plains of South Eastern Ukraine. Both Russia and the EU swiftly attempted to radically decrease energy trade with one another, thus unravelling half a century of growing trade. If surprise is the essence of turbulence - then post-2022 developments in EU-Russia energy relations are a textbook case of turbulence. Few analysts and pundits would have expected such a radical turn within such a short time. Undoubtedly, not all energy trade disappeared overnight: the EU has continued to import some volumes of Russian oil, some Russian pipeline gas via Ukraine and Turkey, enriched uranium and nuclear fuel, and even more liquefied natural gas from Russia than before the war. However, looking at trade volumes, the trend is clear: while being the largest gas provider to the EU in 2021, Russia had dropped to third place behind Norway and the United States in 2023, its share shrinking from over 40% to 15% of total EU gas imports (European Council 2024). The drop in EU oil imports from Russia was even more drastic due to the Union's seaborne oil embargo, even if Russia continued to sell “illegally” some volumes in the EU.

Andreas Goldthau and Nick Sitter (2019) argued that the European Union approached the energy relationship with Russia mostly as a liberal actor, using regulatory and market power rather than hard economic or geopolitical power. This began to change in the late 2010s as a result of the EU taking a more





geopolitical stance on the Nord Stream 2 pipeline project in particular (Siddi and Kustova 2021). Indeed, even before the Nord Stream 2 debate became central, Boersma and Goldthau (2017) noted a trend towards the securitization of EU-Russia energy relations, which could undermine the EU's liberal posture and unravel EU-Russia path dependencies. Siddi (2018) argued that Russia predominantly deployed geopolitical power in its external energy policy, while the EU usually resorted to regulatory power. However, he noted that in the 2010s the EU began adopting a geopolitical stance in some aspects of its external energy policy – as shown by its support of the Southern Gas Corridor, which was seen primarily within the geopolitical logic of bypassing Russia (Siddi 2019). This interpretation was consistent with studies of EU actorness in energy policy, which highlighted the evolution of the EU from being a mere regulator into a 'catalytic' actor that can intervene strategically in energy policy (Prontera 2019).

Energy Diversification in Existing Literature

Diversification theory in energy security posits that states can reduce vulnerability and enhance resilience by expanding the variety of energy sources, suppliers, transit routes, and technologies upon which they rely. Rooted in economic theories of portfolio diversification and risk management, the theory suggests that dependence on a single supplier or energy source increases exposure to supply disruptions, price volatility, and political coercion. In the context of international energy relations, diversification is viewed as a strategic tool for minimizing geopolitical risks and strengthening national and regional energy security (Cherp & Jewell, 2011). Scholars argue that effective diversification involves not only securing alternative suppliers but also promoting renewable energy, improving energy efficiency, and developing infrastructure capable of accessing multiple energy markets (Yergin, 2006). For the European Union, diversification has become a central policy objective, particularly after the 2014 Ukraine crisis, as it seeks to reduce dependence on Russian natural gas through investments in liquefied natural gas (LNG), renewable energy, and alternative pipeline networks. Thus, diversification theory provides an important framework for understanding the EU's evolving energy security strategy in an increasingly competitive Eurasian geopolitical environment. In the second half of 2021, a protracted energy crisis affected Europe, leading to increases in the price of gas, electricity, other fossil fuels and, consequently, many basic consumer goods. Initially, the crisis was caused by a series of factors including tight global energy supply during the post-Covid economic recovery, lower domestic energy production due to the climate crisis (for instance, of hydropower) and lower gas supplies from Russia since the autumn of 2021. The Russian state company Gazprom – the only supplier to the EU with substantial capacity to ramp up exports – decided to provide gas volumes agreed upon in long-term contracts and reduce sales on spot markets, halting them altogether on 13 October 2021 (Fulwood, Honoré and Sharples 2022). The design of the EU gas market, where earlier reforms had promoted a shift away from long-term contracts to spot purchases (against the wishes of long-term suppliers such as Russia), showed its serious faults in a situation of weak supply. Buyers pay lower prices when supply is abundant than they would under long-term contracts; however, when supplies are tight, prices need to rise high enough to attract additional cargoes of liquefied natural gas (LNG), stimulate more production, spur a switch to other fuels such as oil or coal, or curb demand (Bordoff 2022). Moreover, European gas flows relied primarily on pipelines from neighbouring countries (Russia, Norway, Algeria), and much less on LNG imports by tanker, as pipeline supplies were abundant until autumn 2021 and costs lower than for LNG. Therefore, the European gas market remained mostly regional, with imports of LNG from other continents playing a marginal role. This gave considerable leverage to large pipeline suppliers such as Russia. Until mid-2021, the strategy of Russia's Gazprom had been that of adapting to EU market changes and supplying large volumes, not least in order to squeeze out of the market competing LNG suppliers that generally sold at higher prices. Abundant supplies seemed to correspond to the wishes of EU energy policymakers, who intended to turn the EU gas market into a "buyers' market" by fostering competition among producers. They also saw gas as a less polluting fossil fuel that could help decrease emissions thanks to coal- and oil-to-gas switch in various sectors, as well as a back-up source for renewable energy-powered systems. This approach downplayed the fact that, as noted by the Intergovernmental Panel on Climate Change (IPCC) of the United Nations, methane is the second most significant contributor to global warming after carbon dioxide (IPCC 2021). At this stage, Russia appeared to be using the situation to reap profits from higher prices and to pressure the EU into allowing the opening of the Nord Stream 2 pipeline, which had been delayed with legal and political motivations. Another factor



that emerged more clearly in the weeks preceding Russia's attack on Ukraine was the willingness of the Russian political leadership to keep the EU on a tight gas supply while Moscow requested diplomatic and security concessions from the West and prepared for attacking Ukraine. The Russian strategy of restricting gas supplies was largely unsuccessful on both accounts. Certification of Nord Stream 2 was delayed and eventually suspended after Russia recognized the independence of the so-called Lugansk and Donetsk People's Republics on 22 February 2022. The EU and the West made no significant political concession either. However, the squeeze in supplies did have major consequences for the European market in 2022, with gas and electricity prices reaching unprecedented levels. Before the conflict, many European politicians saw energy trade with Russia as a mutually beneficial and reliable relationship, or as the last standing bridge for cooperation between the EU and Moscow. Several developments pointed to the fact that the EU would continue its energy trade with Russia into the 2020s. The European Commission had closed an antitrust investigation into Gazprom's activities in 2018 with a negotiated settlement with the Russian company. In the summer 2021, US President Joe Biden de facto relaxed US opposition to the Nord Stream 2 pipeline and accepted it as a *fait accompli*, not least with the aim of improving the US relationship with Germany, which had deteriorated considerably during the first Trump presidency (Shalal et al. 2021). After February 2022, the discourse on energy trade with Russia in Europe changed radically; this trade became synonymous with European vulnerability, supporting Russia's war effort and Putin's regime.

Research Gap

Existing literature on European energy security has extensively examined the European Union's dependence on Russian energy, the impact of the 2014 Ukraine crisis, and various diversification initiatives aimed at enhancing energy resilience. Similarly, numerous studies have explored the geopolitical dimensions of Eurasian energy politics and the growing competition among Russia, the EU, and China. However, relatively few studies have integrated these perspectives to assess how the EU's energy diversification strategy is reshaping the broader geopolitical landscape of Eurasia within the context of the emerging New Great Game. Moreover, limited attention has been given to the strategic implications of diversification efforts for the EU's long-term role in Eurasian energy governance and regional power dynamics. This study seeks to address this gap by providing a comprehensive analysis of the challenges, opportunities, and strategic consequences of the EU's energy diversification strategy in the evolving Eurasian energy security environment.

Methodology

The present study adopted a qualitative, descriptive approach to explore the European Union's energy diversification strategy and its effects in Eurasia's changing geopolitical scene. This study is based solely on secondary data, it analyzes how energy security, diversification policies, and geopolitical competition have interacted since 2014.

The required data for the study have been collected from a wide range of secondary sources, including scholarly journal articles, books, policy reports, official publications of the European Union, reports from international organizations such as the International Energy Agency (IEA), International Renewable Energy Agency (IRENA) and the International Monetary Fund (IMF), as well as government documents and reputable news sources. Main attention has been given to literature addressing EU-Russia energy relations, energy diversification initiatives, Eurasian geopolitics and the strategic roles of Russia, China and Central Asian states in regional energy dynamics.

The collected data is analyzed through qualitative content analysis. The study reviewed relevant documents, policy statements and academic studies to identify key themes about energy diversification, security, geopolitical shifts and strategic rivalry in Eurasia. The main focus of this analysis is on assessing what's driving the EU's diversification attempts, along with the pros and cons of these policies. The study has also focused on the challenges and opportunities arising from these policies and their broader strategic implications in the context of the new Great Game in Eurasia. This methodology is appropriate because it facilitates a comprehensive understanding of complex geopolitical and energy security issues that cannot

be adequately captured through quantitative measures alone. By synthesizing insights from multiple sources, the study provides a holistic assessment of the EU's evolving energy strategy and its significance in the changing Eurasian energy landscape.

EU Energy Diversification Strategy

- **Drivers of Diversification**

Given the importance of a continuous and stable supply of energy in modern society, the progression and wellbeing of humankind have been shaped by the availability of secure energy resources. Moreover, given that energy resources are limited and unevenly distributed across the globe, the supply of energy is a critical aspect of the security and economic stability of nation states (Radovanovic et al., 2017). As the energy sector continues to evolve towards a global and interconnected energy market, it faces many outstanding challenges, including: increasing energy demand, fluctuating prices, population growth, geopolitical uncertainties, growing dependence of industrialised economies on energy imports, climate change and energy-related sustainability issues, socioeconomic inequalities and political conflicts (Valentine, 2011). At its most basic concept, energy security quantifies the state of energy supply to the population, and hence the likelihood, or risk, of an energy supply disruption or energy shortage, which can have severe implications for economic and social prosperity and national security. The International Energy Agency (IEA) defines the energy security as “the uninterrupted availability of energy sources at an affordable price” and “the ability of the energy system to react promptly to sudden changes in the supply-demand balance” (IEA, 2019).

The core drivers of the EU's energy diversification strategy are geopolitical vulnerabilities (reducing heavy reliance on single suppliers, particularly Russia), climate mitigation (achieving carbon neutrality under the European Green Deal), and market resilience (protecting member states from global price volatility and supply shocks) (De Rosa et al., 2022; Zolotarova and Lukash, 2025).

- **Ukraine crisis and sanctions**

Energy security remains a vital issue for the European Union (EU), even more so in the wake of the events that unfolded in early 2014 in Ukraine. The EU's already fragile position in the international energy arena in terms of supply security appears to be more uncertain than ever after umpteenth fall out with its historic energy supplier, Russia. This situation is untenable and calls for swift and decisive action to adequately tackle the issue once and for all. In addition to the EU's energy dependence on the outside world, other considerable difficulties exist.

Firstly, the regulatory framework at that time on global energy governance is largely multi-layered and fragmented. The absence of both a single international organization that regulates global energy governance as well as a single agreement governing energy in a comprehensive manner contribute to this legal vacuum at the international stage on a crucial issue (Leal-Arcas and Filis, 2013a). Moreover, the disparate energy realities of EU member states further aggravate this lack of cohesiveness within the EU itself by hindering a regional and comprehensive response from the EU (Leal-Arcas and Filis, 2013b).

While the volume of Russian energy sales to the EU has decreased drastically since 2022, Russia has been able to increase coal and oil exports to other major consumers, such as China and India, at discount prices. Due to the concomitant surge in energy prices, Moscow has continued to make substantial profits from energy sales abroad. Russia also sought to revert some of its exports to markets it had abandoned in the 2010s, such as those of Central Asian states. While most of the large volumes of piped gas exported to the EU until 2022 cannot be rerouted elsewhere, Russian companies continued to supply LNG to the EU. In 2024, despite efforts to reduce supplies from Russia, the EU imported record quantities of Russian LNG – approximately 16.5 million tonnes until mid-December, more than in 2023 (15.18 million tonnes) and 2022 (15.21 million tonnes). The reason for this, according to traders, is that LNG shipped from Russia's Yamal terminal to Europe has a significantly lower price than the gas shipped from the US (Novik et al. 2024).





Even so, the EU's political leadership is trying to disentangle the continent from competitively priced Russian gas due to Moscow's aggression against Ukraine and the increasing politicization of EU-Russia energy trade. In late 2022, as a result of reciprocal hostile measures between Moscow and Brussels, the energy crisis in the EU worsened. While the EU's embargo on Russian oil contributed to the rise in oil prices, Russia cut off or reduced gas supplies to several EU members. Following sweeping Western financial sanctions, Russia demanded that European energy companies pay gas purchases to a rouble-denominated bank account at the Russian Gazprombank, rather than accept payments denominated in euros or dollars. EU members that did not comply with the system – starting with Poland and Bulgaria in April and Finland in May 2022 – saw their supply cut off. Some other members (Germany, Italy, France) that opened a rouble-denominated account as requested by Russia avoided a cutoff, but witnessed reductions or variations in supplies in the following months. Russia maintained that reductions in flows were due to technical reasons, pipeline maintenance and Western sanctions that prevented the replacement of a turbine of the Nord Stream pipeline, but Western politicians and companies rejected these allegations (Liboreiro 2022, Fulwood et al. 2022).

In order to face supply shortages and soaring prices, EU members prepared contingency plans for the winter of 2022–2023 and channeled money into schemes meant to alleviate energy costs to consumers. While the goal of such schemes was to prevent the worst impact of the energy crisis on European society, they also resulted in large subsidies for the fossil fuel sector. The EU was able to overcome the worst moments of the energy crisis in 2022 and 2023, even if at a very high economic cost, but the outlook for the gas market remained uncertain. By the late summer of 2022, energy dependence on Russia was cut considerably, not least by reducing substantially energy consumption, but some energy trade with Russia continued. As argued, while EU imports of Russian gas via pipeline decreased drastically, EU imports of Russian LNG even grew compared to previous years (Carter 2023). By the end of 2023, around 15% of EU gas imports came from Russia (8.7% via pipeline and 6.1% as LNG), compared to over 40% in 2021; in terms of volumes, gas imported from Russia decreased from 155 bcm to 43 bcm (European Council 2024). Part of this reduction was possible thanks to the overall decrease in EU gas consumption and imports due to high energy prices and the economic crisis, as well as growing domestic renewable energy generation. From being the largest external gas supplier to the EU, Russia receded to third place, after Norway and the United States. In September 2022 G7 countries announced that they intended to impose a price cap on Russian oil. While the cap can only work if it is accepted by large importers of Russian oil (China, India), it led Russia to react by halting gas supplies to the EU via Nord Stream, thereby worsening further Europe's energy crisis (Foy 2022). On 26 September 2022, the Nord Stream pipelines (as well as one of the two Nord Stream 2 pipelines, which had not yet become operational) were damaged heavily by underwater explosions in the exclusive economic zones of Denmark and Sweden. Most observers and state representatives, both in the West and Russia, argued that the pipelines had been sabotaged; however, different opinions and reciprocal accusations characterized the subsequent debate on responsibility (Lee 2023).

In December 2022, a price cap for Russian oil was introduced by Western countries. Based on it, buyers of Russian crude oil can only access western services such as insurance and broking if they attest that they have paid less than \$60 a barrel. While Russia announced that it would not sell any oil to countries that accept the cap, reports suggested that Moscow continued to trade with Indian buyers that complied with the cap. This was explained by the fact that Russia could make a profit also if it sold its oil below \$60 a barrel (and was in fact already doing so before the cap was introduced). Moreover, Russia began to export its oil also through a 'ghost fleet' made up of vessels that disguise their ownership and movements in order to circumvent Western sanctions (Cook and Sheppard 2023). By the end of 2022, Russia had acquired an additional 103 tankers from countries that had been under western oil sanctions, notably Iran and Venezuela. Moscow announced it would not deal with countries enforcing the ceiling; it possibly aimed to use its new fleet to try to supply partners such as India, China and Turkey, which became the largest buyers of Russian oil as the EU decreased imports drastically (Sheppard, Cook and Ivanova 2022).



In response to growing concerns over energy dependence on Russia, the European Union has adopted a range of diversification measures aimed at enhancing energy security and reducing supply vulnerabilities. A key component of this strategy has been the expansion of liquefied natural gas (LNG) imports from alternative suppliers such as the United States, Qatar, and Norway, thereby reducing reliance on Russian natural gas. The EU has also supported the development of alternative pipeline routes, including the Southern Gas Corridor, to increase access to energy resources from the Caspian region. In addition, significant investments have been made in renewable energy sources such as wind, solar, and hydrogen under initiatives like the European Green Deal and REPowerEU. Efforts to improve energy efficiency, strengthen cross-border energy infrastructure, and integrate member states through the Energy Union framework have further contributed to the EU's diversification agenda. Collectively, these measures seek to enhance supply security, promote sustainability, and increase the EU's resilience to geopolitical and market disruptions.

- **Energy Diversification**

The REPowerEU Plan updated and expanded on the Commission Communication published in March, together with a set of other documents – an External Energy Strategy, a Solar Strategy, a Save Energy Communication, a Solar Rooftop Initiative and a Biomethane Action Plan (European Commission 2022). The Plan and the accompanying documents and strategies expanded on the goals already outlined by the Commission in March, shortly after the Russian attack began: phase out fossil fuel imports from Russia, diversify fossil fuel suppliers and accelerate the energy transition. REPowerEU built on the Fit for 55 agenda and developed it through an emphasis on reducing energy demand, diversifying fossil fuel suppliers and accelerating the transition to renewable energy sources (European Commission 2022). As the EU is almost completely dependent on imports to satisfy its demand of oil and gas, reducing demand automatically leads to a reduction in import needs. For this purpose, the REPowerEU Plan proposed to increase the energy efficiency target and to update national Energy and Climate Plans of member states accordingly. In conjunction with the Energy Performance of Buildings directive, the Plan put an emphasis on renovating buildings, an area where there is vast room for improvement in Europe. In 2022-2023, the spike in prices and the shortage of construction materials made renovations a difficult and costly task; to compensate for this at least partly, the Commission recommended that member states lower value added tax on new efficiency heating systems and building insulation, for example. In addition to mid- and long-term infrastructural changes, REPowerEU and the Save Energy Communication highlighted the importance of behavioural changes in the short term. Based on the calculations made by the European Commission in March 2022, these energy saving measures would allow reducing imports of Russian gas by 10 bcm (European Commission 2022).

The second key component of the REPowerEU Plan, diversifying energy imports, was arguably the most controversial in terms of climate policy. Together with the new External Energy Strategy, this part of the Plan focused on increasing imports of fossil fuels from various external suppliers in order to eliminate reliance on Russia. Most notably, the EU aimed to increase imports of liquefied natural gas (LNG) from other suppliers. This means that new fossil fuel infrastructure would be built, such as LNG import terminals, floating storage regasification units and interconnectors. Despite a clear intention to downplay the cost of this effort, which would otherwise cast doubts on its 'green credentials', the Plan 9 itself estimated that 10 billion Euros were required for new fossil fuel infrastructure (European Commission 2022). Moreover, a large increase in LNG imports was expected, and is indeed occurring, from a group of distant countries, such as the US and Qatar, which makes transportation more environmentally impactful. This adds up to the higher methane emissions associated with LNG (Von Homeyer, Oberthür and Dupont 2022). Other concerns regarding these imports are the fact that the US extracts shale gas and oil through fracking (using large amounts of pressurised water and chemicals to break rocks where gas and oil are trapped), a technique with heavy environmental impact that has been banned in some EU member states (for instance, France). Moreover, by substantially increasing imports of US gas, the EU develops an energy dependence on an industrial and economic competitor - an issue that may become highly relevant as Donald Trump returns to the US presidency in 2025. Indeed, even prior to taking up office, Trump



threatened to impose tariffs on the EU unless it increased its imports of US oil and gas (Winston et al. 2024).

Looking beyond US LNG, additional EU imports via pipeline from Algeria and Azerbaijan are constrained by limited gas availability and entail both geopolitical risks and dependence on other non-democratic states. Just to mention two examples, Azeri gas provides a lifeline to the authoritarian government in Baku and gives leverage to Turkey as a transit country (Siddi 2019); one of the two pipelines transporting gas from Algeria to Spain has been closed since November 2021 due to a conflict between Algeria and Morocco concerning the Western Sahara. Increased EU fossil fuel demand from countries such as Algeria and Azerbaijan would also lead them to seek to increase production and to make related investments in exploration and infrastructure, thereby delaying their energy transition. Due to the exclusive geopolitical focus on Russia, the REPowerEU Plan did not address these issues.

The REPowerEU Plan also highlighted the potential role of the EU Energy Platform, which the Commission and member states set up in the spring of 2022 for the voluntary common purchase of gas, hydrogen and LNG. The Platform revamped the long-discussed idea of aggregating EU gas demand and leveraging the size of the EU market with suppliers. The idea was not implemented earlier due to the scepticism of several member states that preferred to rely on the free market and other contractual forms. Regarding green (renewable) hydrogen, the new External Energy Strategy advocated the production or import of an additional 15 million tons (mt) – on top of the 5.6 mt foreseen by the Fit for 55 initiative – until 2030 in order to replace around 27 bcm of imported Russian gas (European Commission 2022). According to the REPowerEU Plan, 10 mt of hydrogen will be imported and another 10 mt produced in the EU by 2030. In order to facilitate the import of up to 10 million tons of renewable hydrogen, the Commission pledged to support the development of three major hydrogen import corridors via the Mediterranean, the North Sea area and, when conditions allow, Ukraine. In February 2023, the Commission adopted two delegated acts that define what constitutes renewable hydrogen in the EU. The goal is to ensure that the generation of renewable hydrogen incentivizes an increase in the volume of renewable energy available to the grid compared to what exists already (European Commission 2023).

The third main component of the REPowerEU Plan concerned substituting fossil fuels with renewable energy sources and accelerating Europe's clean energy transition. The Plan proposed to lift the 2030 renewable energy target from 40 percent to 45 percent of final energy consumption, set targets for installing new solar photovoltaic capacity (320 GW by 2025 and nearly 600 GW by 2030) and introduced a European Solar Rooftop Initiative with a legal commitment for new buildings. It also proposed to double the current deployment rate of heat pumps and recommended simplifying permitting and planning procedures for renewable energy installations. Together with greater reliance on green hydrogen, the Plan also advocated boosting biomethane production to 35 bcm by 2030. From a geopolitical perspective, these targets can be met mostly by increasing domestic renewable energy production, which implies less dependence on foreign imports – with the exception of green hydrogen, where the EU will be largely reliant on imports if it is to meet the stated target. At the same time, dependence on minerals that are critical to renewable energy production and storage will increase. Hence, creating international partnerships with producers and securing supply chains is essential. The creation of circular economies and 'recycling' critical minerals will be just as, if not more important. As far as costs are concerned, the European Commission stated that additional investments of 210 billion Euros are necessary until 2027 to implement the REPowerEU Plan, on top of the funding necessary for the 'Fit for 55' initiative (European Commission 2022). This is a large sum, which has to be financed mostly with already existing funds, especially the Recovery and Resilience Facility originally created to mitigate the economic impact of the COVID-19-pandemic. 20 billion Euros are to be raised by auctioning additional ETS emission allowances, which would enable higher greenhouse gas emissions (Von Homeyer, Oberthür and Dupont 2022). At the same time, some costs could be partially offset by the reduced need for fossil fuel imports. The REPowerEU Communication claimed that the Plan "will save the EU EUR 80 billion in gas import expenditures, EUR 12 bn in oil import expenditures and EUR 1.7 bn in coal import expenditures per year by 2030" (European Commission 2022)



At the same time, tensions and risks exist within the REPowerEU agenda. While the European Commission carefully worded the Plan as an instrument to accelerate the energy transition, in the short term the policy of phasing out Russian fossil fuels and the decrease in Russian gas supplies led to a switch from gas to coal in some contexts, and especially to a rapid increase in imports of liquefied natural gas (LNG) over long distances. Suppliers that acquired a larger stake in the EU market include countries that are not democratic nor particularly EU-friendly, such as Qatar and Azerbaijan. In 2023, Azerbaijan used military force against Armenia and Nagorno-Karabakh, leading to the expulsion of the Armenian population from the latter region. In late 2022, Qatar was accused of orchestrating a large-sale corruption scandal in the European Parliament that aimed at influencing some decisions of the institution in Doha's favour. Faced with substantial evidence of its responsibility, the Qatari government stated that the investigation into its activities (led by the Belgian police) would "negatively affect" energy discussions with the EU, thereby using energy trade as a political lever at a time when the EU was trying to replace part of its imports from Russia with Qatar's LNG (Crisp 2022).

Furthermore, new energy deals with gas and LNG producers, together with plans to build additional infrastructure for LNG imports and new pipeline connections, risk delaying the climate agenda by distracting resources and, at worst, producing new dependencies and carbon lock-in. Some scholars have highlighted these risks. For instance, Vezzoni (2023) has argued that the new course in EU energy policy is "yoking the continent into raw materials dependency and lock-in investments in fossil fuel infrastructures, while partnering with other warmonger and dictatorial states", such as Qatar, Azerbaijan, Egypt and Israel.

5. Eurasian Energy Competition and the New Great Game

Energy has become the symbol of 21st-century geopolitics. Asia in this geopolitical game is considered to be the ground zero. As of 2021, at least a quarter of the world's liquid hydrocarbons are consumed by China, India, Japan and South Korea. Over the next 20 years, 85% of the growth in energy consumption will come from the Indo-Pacific region.

The theory of the "New Great Game" led numerous analyses on Central Asia to consider the five republics as "passive pawns" of a chessboard that involves the major international players (Kleveman, 2004). Instead, these nations are active actors with their own political agenda, being able to determine foreign policies visible within the international system (Isaacs, 2016). The rising interests of major big powers – such as China, the United States and Europe – united with the long-standing Russian attention toward the area are undoubted. Nonetheless, the five countries must be taken into consideration individually for an in-depth study of Central Asia.

Eurasia plays a key role in global energy politics thanks to its huge oil and gas reserves, and its position linking Europe, Asia, and the Middle East. Because of this, it's where Russia, the EU, and China often cross paths and clash. Historically, Russia considers Eurasia a crucial part of its own backyard. They use their energy resources like a key tool in foreign policy. Russian state-owned companies and vast pipeline networks help keep their sway over energy in the area. They want to stay a top supplier to Europe too. So, while others may have ambitions there, Russia has been pretty set on controlling the energy game in Eurasia (Stegen, 2011). After the 2014 Ukraine crisis and Western sanctions, Russia stepped up its move to diversify export markets. They did this by boosting energy ties with China and other Asian countries. The Power of Siberia pipeline and beefed-up cooperation in Eurasian economic groups show Moscow's plan. This plan aims to cut dependence on European markets while keeping geopolitical clout across Eurasia (Tynkkynen, 2024).

The European Union sees Eurasia as a key source for diversifying energy supplies. Since they're worried about being too dependent on Russian gas, the EU is trying to boost energy connections with nations in the Caspian region and Central Asia. For example, the Southern Gas Corridor links European markets to Azerbaijani gas through Trans-Anatolian Natural Gas Pipeline (TANAP) and the Trans Adriatic Pipeline (TAP), showing how the EU aims to get alternative energy and improve security in this area (Maltby, 2013). Through these initiatives, the EU aims not only to diversify supply sources but also to reduce the geopolitical risks associated with energy dependence.



China is now a big player in Eurasian energy too. With skyrocketing energy needs and fears about security, Beijing poured money into building energy infrastructure and developing resources across Central Asia. Through the Belt and Road Initiative, China built pipelines, transport routes, and economic ties, which give them better access to oil and gas while boosting their clout in the region (Liao, 2021). This growing influence is changing the traditional power dynamics in Eurasia, giving new chances but also challenges to both Russia and the EU. Central Asia sits right in the middle of this shifting geopolitical setup. Countries like Kazakhstan, Turkmenistan, and Uzbekistan hold huge stores of oil and gas and act as key transit spots linking up big consumer markets. Because of this, they've become better at juggling ties with various outside powers, boosting their clout in global energy politics. With Russia, the EU, and China all competing for access to resources, markets, and transport paths, the region is now a hot spot in the world energy games today. The New Great Game in Eurasia goes beyond just grabbing resources; it's now about bigger strategic goals like gaining influence, integrating economies, and securing good positions geopolitically. These competing energy strategies have reorganized the region and made the energy order way more complex and multipolar. Understanding these developments is essential for assessing the future of European energy security and the evolving geopolitical landscape of Eurasia.

6. Challenges, Opportunities and Strategic Implications for the EU

The EU's push for energy diversification is key to its energy security plan, especially since the 2014 Ukraine crisis and the worsening relations with Russia. Though these efforts aim to bolster energy resilience and lessen reliance on one provider, they've brought a host of economic, political, and strategic hurdles too. This shapes the EU's role in Eurasian energy governance and its stance in world politics in big ways.

A big issue for the EU is how pricey diversification is. Shifting away from established Russian energy means major infrastructure spend – LNG terminals, storage spaces, pipeline ties, and more renewables. While this move lets them import from a wider mix of spots like the US and Qatar, LNG typically comes with extra transport and infra costs compared to piped gas (Yergin, 2020). Furthermore, energy price volatility resulting from supply disruptions and geopolitical tensions has increased financial pressures on European industries and consumers. This raises concerns about economic competitiveness and energy affordability.

Another significant challenge involves the complexity of coordinating energy policies among EU member states. Though the EU pushes for shared energy security with projects like the Energy Union and REPowerEU, each country has its own priorities, resources, and reliance on other suppliers for energy. This makes it hard to put a unified strategy into action and can slow down collaborative efforts when new energy security issues pop up (Goldthau & Sitter, 2015). Moreover, geopolitical uncertainties in Eurasia and the Middle East continue to pose risks to the reliability of alternative energy supply routes and partnerships.

Despite these challenges, diversification has created big opportunities for the European Union. Mainly, it has made the EU's energy situation more secure by cutting its heavy reliance on Russian energy. The EU is now importing from various suppliers and investing in other energy types, which helps it resist supply cuts and political pressure better. Plus, diversification fits the EU's goals for long-term sustainability. It speeds up the switch to renewables, like wind and solar. This push for clean energy not only keeps the EU secure but also helps them reach their climate targets set out in the European Green Deal (European Commission, 2022).

The diversification strategy has also strengthened the EU's ability to develop strategic partnerships beyond its traditional energy relationships. The EU has expanded its energy partnerships by working more closely with Norway, the United States, Azerbaijan, and countries in the Eastern Mediterranean. This boosts their flexibility on the world stage. Plus, connecting with Central Asian countries could lead to bigger economies of scale and give them access to new energy routes between Europe and Eurasia. These partnerships help build a more diverse and connected regional energy setup.



From a strategic perspective, the EU's diversification efforts have significant implications for Eurasian geopolitics. As Europe reduces its dependence on Russian energy, Moscow has increasingly redirected energy exports toward Asian markets, particularly China. This shift has contributed to the emergence of new geopolitical alignments and altered traditional patterns of energy interdependence. China is ramping up its presence in Central Asia with big infrastructure projects and energy teamwork. This cranks up the competition for influence there. So, the EU faces a tougher geopolitical setting with various competing players and shifting energy connections.

The strategic significance of Central Asia and the Caspian region has grown too, with Europe looking for new energy source spots and paths. This shift allows the EU to reach out more and build stronger ties economically and diplomatically. It also helps in boosting stability and linking areas in Eurasia. Still, the EU requires to handle relations carefully with local power players and think about wider geopolitical dynamics.

The EU's energy diversification strategy has major challenges along with some great opportunities. Though economic costs, policy coordination problems, and geopolitical uncertainty still appear as big obstacles. It has boosted energy security, sustainability, and strategic flexibility. The long-term success of these efforts will depend on the EU's ability to balance immediate energy needs with broader geopolitical and environmental objectives while adapting to the evolving dynamics of the Eurasian energy landscape.

7. Conclusion

The European Union is changing how it ensures energy security because of growing geopolitical uncertainties and its longtime reliance on Russian energy supplies. After 2014, especially with the Ukraine crisis, the EU sped up efforts to find other energy sources. They also worked on importing more LNG, improving infrastructure, and boosting renewables. The New Great Game in Eurasia has ramped up competition between big players like Russia, the EU and China for control over energy resources, transit routes, and strategic partnerships. Although diversification has made the EU more resilient and less vulnerable strategically, it still faces infrastructure, cost, and instability issues. Still, the EU's shifting energy strategy has boosted its standing in the changing Eurasian energy scene, showing how energy security, geopolitical rivalry, and sustainable development are increasingly intertwined. For future success, the EU needs to find a balance between keeping energy secure, being economically efficient and staying environmentally committed while considering wider geopolitical issues.

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