

## Elements of Energy Geopolitics

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**ABSTRACT:** This article delves into energy geopolitics as a complex field involving the analysis of how states and international actors interact to ensure access, control and efficient use of energy resources - oil, natural gas, coal and nuclear power. Collaboration in joint projects such as gas pipelines or renewable energy projects can be a key element in establishing strategic relationships. A crucial aspect of energy geopolitics is the degree of dependence of some countries on energy resources and, in this sense, states that hold significant resources often have a strategic advantage, being able to influence geopolitical relations by providing or restricting access to these resources. This article also explores the transportation routes whose control gives states significant influence in geopolitical dynamics, vulnerabilities and energy security, the transition to cleaner and renewable energy sources, and the extraordinary impact of technological advances.

**KEYWORDS:** energy power, energy geopolitics, gas dependence, large energy routes, European cooperation in the energy field

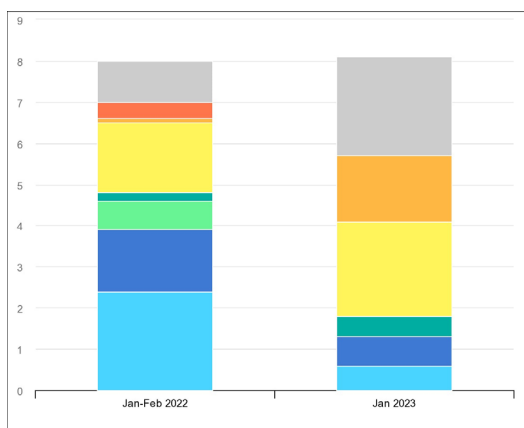
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After Russia’s invasion of Ukraine, the global energy landscape changed dramatically. Regions around the world have experienced major price increases with strong impacts on economies and consumers, all against a geopolitical backdrop that has energy security at its core. The economic disruption caused by the war in Ukraine has amplified concerns for an accelerated energy transition, a shift that would not only move countries away from highly polluting fuels but also bring with it varying degrees of measured energy independence.

### 1. Elements of energy geopolitical analysis in Europe

In the context of today’s Europe, energy dependence and power are essential aspects of energy geopolitics, having significant consequences for security and stability in the region. Current issues are complex and heavily influenced by interactions with external suppliers, particularly Russia. Russia’s invasion of Ukraine has profoundly transformed European and global gas markets. While the immediate effects of the initial shock have subsided in early 2023, the structural changes emerging in 2022 will persist for years and should be carefully assessed by policymakers and market players. However, according to the data presented in the IEA World Energy Investment Report (IEA 2023), the European Union (EU) faces a potential shortfall of almost 30 billion cubic meters of natural gas this year. However, the gap can be reduced by greater efforts to improve energy efficiency, implement renewable sources suitable for each area, install heat pumps, promote energy savings and increase gas reserves.

At the beginning of the year, Russia reduced the country’s oil production and thus replaced the sale to countries that respected the G7 price. Even though supply has fallen sharply, it appears that, despite the sanctions, Russia will continue to play a major role in global oil markets, ranking as the world’s third largest producer after the United States and Saudi Arabia. The same Report shows that in January of this year, total oil production was 11.2 mb/day. By comparison, total US oil production was 18.3 mb/d, while Saudi Arabia pumped 12.4 mb/d. We note, however, that the structure of exports is different from how it was at the beginning of 2022.



Sources: IEA, Argus, Kpler

The European Union's March 2022 commitments to phase out fossil fuel imports from Russia are having a major and rapid impact on the continent's energy and gas markets, visible for years to come and with major implications for global trade dynamics. The IEA World Energy Investment Report 2023 shows that the EU's dependence on Russian gas has steadily increased over the past decade. Russia's share of total EU gas demand has risen from 26% in 2010 to an average of over 40% in 2018-2021 and the IEA was among the first to raise concerns about this growing dependence. It is expected that China's role played in the global gas market will increase in the medium term and in this context, the architecture of global energy geopolitics embodied especially in gas supply and flexibility mechanisms will be changing.

Currently, the European natural gas markets are not out of the danger created by the supply reductions made by Russia. European countries still face the risk of a gas supply shortage in 2023 depending on the energy market movements of Russia and China. Other key factors are added and here we are thinking that Russian gas reserves could decrease and also the EU's supply of liquefied natural gas. We can also add the weather factor in that the unusually mild early winter temperatures could change.

Of course, measures have also been taken at the level of the governments of European countries to reduce this risk, and the efforts regarding energy efficiency, renewable sources and heat pumps, measures to recover nuclear and hydropower production in 2022, from the very low levels of the last decade, in order to reduce the potential gap between the demand and supply of natural gas.

The fact that the supply shock induced by Russia has driven natural gas prices to record highs in European hubs cannot be overlooked in the analysis of energy geopolitics. Monthly forward prices at TTF (Dutch TTF Natural Gas Futures Pricing) – Europe's main gas hub – averaged more than seven times the average between 2016 and 2020 (IEA 2023, *How to Avoid Gas Shortages in the European Union in 2023*).

In this context, some key actions can be deduced in order to reduce market demand and, according to the recommendations of the International Energy Agency Report - *How to Avoid Gas Shortages in the European Union in 2023*, they consist in stimulating faster improvements in energy efficiency, a faster implementation of renewable sources, accelerating the electrification of heat doubled by encouraging behavioral changes among consumers. There have also been major initiatives by EU member states as

well as infrastructure projects that aim to increase the resilience of European gas markets, strengthen solidarity and limit excessive price increases. Here we recall the Storage Regulation adopted by the European Union in June 2022, introducing minimum gas storage obligations, according to which storage sites must be filled to at least 80% of their capacity before the winter of 2022-2023 and with 90% before all next winter periods so as to ensure an adequate supply buffer until the end of the first quarter of 2024.

The joint task force announced by the EU and the United States in March 2022 to strengthen European energy security represents a success in the field of energy diplomacy alongside the June 2022 memorandum of understanding on a strategic partnership in the field of energy concluded by the European Union with Azerbaijan.

We believe that in an era of heightened geopolitical uncertainty, global security of gas supply will remain at the forefront of energy policymaking, with increasing complexity in both the short and long term.

## **2. Elements of energy geopolitical analysis in Romania**

Romania has a significant dependence on fossil resources, especially coal and natural gas. This dependence can influence geopolitical relations, given the importance of these resources in the country's energy mix. However, Romania's economy has withstood the consequences of Russia's invasion of Ukraine well. From the Commission Staff Working Document, 2023 Country Report – Romania, it follows that Romania's real GDP increased by 4.7% in 2022 despite high inflation. However, imports increased more than exports and the current account deficit widened to 9.3% of GDP. The impact of rising energy prices has been mitigated by various measures taken at the government level in 2022 even if most are short-term measures. Romania also applies the EU solidarity contribution in the application of Council Regulation (EU) 2022/1854.

From the point of view of dependence on Russian natural gas, Romania is in a positive situation due to the domestic production of natural gas and a balanced, reasonable energy mix. Measures taken to reduce gas consumption, the temporary restart of previously shut-down coal-fired power plants and a 60% solidarity tax imposed on the additional revenue generated by power producers that goes directly to the energy transition fund have further contributed to reducing this dependence. However, it is highly dependent on

fossil fuels in general, particularly for oil, and the economy has been severely affected by energy price developments, requiring Romania to step up its energy transition efforts and protect vulnerable consumers. Of course, a geopolitical analysis of the energy sector in Romania must take into account several essential elements, highlighting the complex interactions between internal and external factors that shape the country's energy landscape.

In the context of climate change and the diversification of energy sources, Romania is turning its attention to renewable sources. Investments in wind, solar and hydropower can change geopolitical dynamics and contribute to the country's energy security. So, Romania has wind farms located in different regions of the country, which are modern and have incorporated new, developed technologies that have increased production capacity and reduced costs. Also, photovoltaic solar parks with a significant capacity have been developed in Romania, solar installations on the roofs of industrial and commercial buildings and investments have been made in the modernization and expansion of hydroelectric plants. It should be noted that Romania's ecological transition requires continuous action in several main directions of action, including renewable sources, sustainable transport, air quality and adaptation to climate change.

Statistical data from the country report show that the deployment of renewable energy in Romania reached a total of 11,138 MW in 2021, increasing by 0.15% compared to 2020 (48). Most of this growth was in solar (+1% in 2021). Romania currently has no offshore wind power. Major challenges remain in decarbonisation and energy efficiency, and lower greenhouse gas emissions in the construction and transport sectors are needed to achieve national targets.

We also see the retraining of workers from declining sectors as a challenge, and this essential transformation is growing strongly in Romania. The considerable share of jobs in the energy-consuming sectors in the total employment in Romania highlights the need for continuous investments in skills specific to the transition to an economy that operates mostly with green energy. Skills are essential for smooth labor market transitions and job retention in transforming sectors. In this sense, the European Social Fund Plus (ESF+) contributes to the development of ecological skills and jobs by investing in education and training. We believe that the general trends presented contributed to the diversification of Romania's energy mix, led to the reduction of dependence on fossil resources, reflect concerns for

sustainability and the reduction of greenhouse gas emissions, and also have a positive economic impact.

Romania is the second largest producer of natural gas in the EU after the Netherlands, able to generate up to 80% of the natural gas it needs and imports the difference during peak demand periods in the winter, mainly from Russia. Gas production fell from 2017 to 8.8 billion cubic meters (bcm) in 2021 (-4.5%/y) but the downward trend reversed in 2022 (+2.5% vs. 2021), with a contribution from tapping offshore reserves (Romania 2023 Country Report). From the fact that production covered 76% of consumption in 2021, while imports increased to 3.6 billion cubic meters, it follows that, especially in the winter season, Romania depends on Russian gas.

We can also state that Romania has a well-developed natural gas transport and storage infrastructure, with good cross-border connections, but it does not have a liquefied natural gas terminal for storage or regasification. So, by 2029, its gas storage capacity is expected to increase by 1.6 billion cubic meters. Moreover, there are several pending gas projects involving Romania in the list of Projects of Common Interest aimed at increasing underground gas storage, expanding internal transport capacity to Hungary as well as taking over gas from the Black Sea.

Seen from the perspective of energy diplomacy, foreign policy in the field of energy security has a series of well-established objectives which, according to the Ministry of Foreign Affairs, consist in the major use of domestic production, in the diversification of imports and transport routes for hydrocarbons on Romanian territory. So, it is taken into account that the Black Sea Region is an area of increased interest for its offshore hydrocarbon potential and the interconnection of the national natural gas transportation system with those of neighboring countries along the BRUA corridor (Bulgaria-Romania-Hungary-Austria), creates the necessary conditions for regional diversification. Romania completed, in 2020, all 3 new compressor stations needed to put into operation the first phase of the BRUA project, in accordance with the schedule that will ensure a transport capacity of 1.75 bcm/year, in reverse flow, at interconnection on the Romanian-Hungarian border line, and 1.5 bcm/year at the interconnection point between Romania and Bulgaria (Ministry of Foreign Affairs 2021).

The EU adopted the REPowerEU Plan to save energy, produce clean energy and diversify energy supply in response to energy disruptions following

the attack on Ukraine. In addition to these measures, the Commission launched the EU Energy Platform in April 2022 which has three major objectives: the aggregation of energy demand and the joint purchase of gas, the much more efficient use of existing energy infrastructure and international expansion (European Commission 2022). In 2022, the EU Energy Platform has been central to the EU's diversification efforts, facilitating the signing of MoUs with key gas exporting partner countries such as the US, Azerbaijan, Egypt and Norway, and increasing international outreach to support the REPowerEU Plan.

Romania remains engaged in joint European efforts to implement actions related to the Energy Union and the measures to strengthen Europe's energy security, to achieve long-term objectives in the field of energy and climate change and the measures to achieve an integrated and functional energy market remain priority. In achieving this goal, a technologically up-to-date infrastructure with adequate interconnections and reliable networks is very important for achieving an integrated energy market. The Trans-European Networks for Energy (TEN-E), which are actually a policy that focuses on connecting the energy infrastructure of EU countries, also fall under the same guidelines. In this regard, eleven priority corridors and three priority thematic areas have been identified and the EU is helping countries in these areas to work together to develop better connected energy networks.

### 3. Conclusions

It is evident that energy transition efforts have intensified over the past decade, but have been tempered by macroeconomic, geopolitical challenges and the global medical pandemic. However, governments around the world are paying more attention to the development of renewable energy technologies and the resulting economic and social transformations. But let's not forget that amid an uncertain economic outlook, energy and mining companies face a multitude of challenges in the coming years. Even though energy policy developments in recent years have been favorable and have provided considerable short- and medium-term opportunities for the energy and mining sectors, it portends that interest rates will remain high and economic growth is slowing, which poses a challenge for energy market participants.

There is also emerging interest from major mining companies in critical minerals, energy transition, climate strategy and decarbonization of

operations in future investment plans, leading us to believe that the medium-term outlook for the mining sector remains strong, particularly after the global economy finds a solid footing as energy transition efforts continue to grow at a sustained and predictable pace. I would add that there are also near-term challenges to the roll-out of renewable and traditional energy infrastructure which leads us to believe that the industry will take a cautious and rigorous approach to project development efforts in the near term, trying to avoid challenges with that have faced so far.

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