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The Energy Crisis and The Measures Taken by the European Union to Overcome It

Livia CEBOTARI[1], Ada PAIERELE[2*]

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Abstract

The energy crisis that broke out in the fall of 2021 quickly became global, affecting several powerful economies around the world. The European Union, a major importer of energy resources, has become the epicentre of this crisis, facing shortages of natural gas and an exorbitant increase in fossil fuel prices. The escalation of the military conflict in Ukraine, in February 2022, highlighted the vulnerability of the European Union in the field of energy security, especially emphasising the dependence of the EU bloc on energy resources imported from Russia.

The EU adopted several measures to minimise the negative effects of the crisis. In this context, the article aims to critically evaluate the effects of the measures taken by the authorities of the European Union and the member states, using the qualitative research method.

This paper is the result of the study of specialised literature on the topic addressed: official documents of the European Parliament and the European Commission, academic articles, and, last but not least, studies published by various prestigious think tanks. Additionally, the research is based on the analysis of data published by Eurostat.

Following the analysis, it was determined that the current energy crisis highlights the need for a review of how the security of the EU's energy supply is guaranteed. The reality of our days is an impulse to accelerate the transition from conventional to renewable energy resources, but also a challenge in terms of the power to supply various sectors of the economy with alternative energy resources.

Keywords: energy crisis, European Union, Russian Federation, energy security.

JEL Classification: F51, Q34.

[1] Bucharest University of Economic Studies, Bucharest, Romania, cebotari.livia.2014@gmail.com.
[2] Bucharest University of Economic Studies, Bucharest, Romania, paierele.ada@gmail.com.
* Corresponding author.

1. Introduction

The energy crisis that broke out in the fall of 2021 quickly became global, affecting several powerful economies around the world.

The paper addresses a current and important topic considering that the European Union, a major energy resource importer, has become the epicentre of this crisis. The EU bloc has faced a sudden and exorbitant increase in fossil fuel prices and shortages of natural gas. The unexpected increase in the price of natural gas had a ripple effect in all sectors of the economy, and the suspension of gas deliveries to several EU member states in the summer of 2022 has extended the uncertainty of energy supply. The conflict in Ukraine generated concerns about the energy security of the European Union, prompting EU leaders to seek solutions to ensure the energy supply of all member countries.

In this context, the purpose of this paper is to analyse how EU authorities have responded to the energy crisis, while also taking into account climate-related objectives. The research is a distinctive analysis of the topic addressed. In the first part of the article, the specialised literature on the concept of energy security was reviewed, and also the importance of energy security for the EU, especially in the context of an energy crisis, was presented. In the second part, the causes of the current energy crisis were presented, and in the third part, the measures taken by the European Union to minimise the negative effects of the current crisis were listed and analysed.

The authors are aware of the limitations of this research. Although the latest available information has been studied at the time of writing the article, this subject needs to be updated regularly, given that the addressed topic is current and new circumstances occur every day. The paper complements current research in this field and can be the starting point for new research on the decisions adopted by EU Member States at the national level in the field of energy policy to mitigate the current energy crisis.

2. Problem Statement

Natural resources, especially energy resources, have always had a major impact on the evolution of human society and economic development. In the content of the action plan, adopted by the United Nations during the Earth Summit, held in Rio de Janeiro (Brazil) in 1992, it was stated that "energy is essential for economic and social development and improving the quality of life" (United Nations, 1992).

Energy security is a multidimensional concept that has evolved over time. Initially, this notion referred only to oil. M. Collon argued that if you want to rule the world, you must control oil [...] wherever it is (Collon, 2000). Gradually, the concept of energy security also extended to natural gas and electricity. Currently, the concept mentioned above includes all phases related to the energy chain, represents a fusion of the notions of national security, sustainability, individual security, human rights, and has a major impact on the economic development of a country and the quality of life and social well-being of its citizens (Sovacool, 2016).

In the view of several specialists in the field, energy security means being ensured from the point of view of resources, control of routes, distribution, and alternatives. In general, the concept is defined as "secure resources at a reasonable price" (Proninska, 2007; Yergin, 2006), covering a much wider issue than the security of supply - sustainability - competitiveness triangle. Energy security is often perceived as an "umbrella" covering many concerns related to energy, economic growth, and political power.

Energy security mainly aims at the following dimensions: ensuring alternative sources of supply, identifying alternative energy sources for transport, securing existing sources and routes, and increasing the share of alternative energies in domestic consumption.

The vision of energy security depends largely on the regional and global context and the position occupied in the economic circuit. Therefore, consumers and energy-consuming industries want reasonable prices and try to avoid supply interruptions. The major oil-producing countries consider the security of demand and the security of income essential parts of any discussion of energy security.

According to the World Bank, energy security includes three major pillars: "energy efficiency, diversification of energy supply, and managing volatility" (World Bank, 2006). The experts of the German Center for Applied Political Research have identified the following dimensions of energy security, namely: the domestic political dimension, the economic, geopolitical, and security policy dimensions (Baumann, 2018). The International Energy Agency (IEA) presents energy security as available and uninterrupted energy sources for an affordable amount of money (IEA, 2023).

The EU's energy policy has been constantly adapted to the new geopolitical realities to supply energy at affordable prices, promote energy efficiency, and protect the environment. In the content of the European Energy Security Strategy, presented in 2014, it was pointed out that "EU prosperity and security hinges on a stable and abundant supply of energy" (European Commission, 2014). Currently, the energy policy of the European Union focuses on the security of energy supply, sustainability, and integration of the energy markets of member states (Ciucci, 2022). Thus, the energy policy of the European Union is dominated by two interrelated themes: the problem of energy supply and the aspiration to become the *world's* first “climate-neutral bloc” by 2050. EU climate and energy policies are no longer seen as separate domains in EU policymaking (Siddi, 2023). In the current European energy policy, the definition of energy security corresponds to that given by the IEA, namely "uninterrupted availability of energy at an affordable price". Given the fact that the EU is a large importer of energy resources, its current policy in this area focuses on ensuring a stable flow of energy at affordable prices in the context of energy crises (Pilloni, 2022). In response to the energy crisis, the EU has fundamentally reframed its energy policy, in addition to climate concerns, expanding its attention to global industrial competitiveness, but also to energy poverty (Maaskant, Bogaert, 2023).

3. Research Questions / Aims of the Research

The article aims to critically evaluate the effects of the measures taken by the authorities of the European Union to combat the energy crisis. To achieve the proposed goal, the following objectives were formulated: defining the concept of energy security and presenting its importance to a country; explaining the concept of energy security from the perspective of the European Union; establishing the premises and causes of the energy crisis that began in 2021; analysis of the measures taken by the EU to minimise the negative effects of the energy crisis while still pursuing the goal of becoming climate-neutral by 2050.

4. Research Methods

The paper is an analysis of the measures taken by the authorities of the European Union and member states to mitigate the energy crisis, using the qualitative research method. The article is the result of the study of specialised literature on the topic addressed: official documents of the European Parliament and the European Commission, academic articles and, last but not least, studies published by various prestigious think tanks (Center for Applied Policy Research, Center for Strategic and International Studies, Israel Public Policy Institute (IPPI)). To outline a complete image of the researched topic, statistical data was collected. As a result of accessing Eurostat and IEA Statistics, data on global energy production, consumption, and EU energy imports from the Russian Federation and from outside Russia for the period 2016-2022 were analysed.

5. Findings

5.1 Causes of the Energy Crisis

Among the main causes of the crisis in the EU are the following:

Accelerated post-pandemic economic recovery, business recovery resulting in a "demand shock" for energy, especially natural gas. In Q2 and Q3 of 2021, EU GDP began to grow (growth of over 2 % per quarter) and is even more pronounced compared to the corresponding quarters of 2020 (Eurostat, 2023). Natural gas demand growth was even stronger, at 6 % for 2021 (IEA, 2021). Additional demand for it was also due to the implementation of the plan of Germany, the largest consumer of energy resources in the EU, to phase out nuclear energy by 2022.

Weather conditions, in particular, the cold winter of 2020-2021, during which energy consumption in the EU increased significantly; during several cold periods in April-May 2021, some EU Member States also had to switch from filling underground gas storages (UGS) to extracting gas from them. Low wind conditions also reduced the amount of offshore wind generation.

Liquefied natural gas (LNG) market transformations: In 2021, LNG supplies to the EU grew by 5 % in comparison with 10 % annually in 2016-2019. The most important factor was the reorientation of suppliers to other parts of the world due to higher demand and, accordingly, more attractive offers at purchase prices in non-

European markets. As a result, 80 % of all added LNG production in the world in 2021 went to China; LNG supplies to Asia increased by 11 %, to America – by 59 %, while to Europe they were carried out on a residual basis (Tsafos, 2021).

Limited LNG supplies from the US, were driven not only by weather conditions and the economic impact of the pandemic but also by new climate priorities, which led to a decrease in investment in shale gas production.

Limited pipeline gas supplies: imports from Norway in Q2 2021 fell below 20 %, the lowest since 2015; shipments from Libya also decreased.

5.2 EU-Coordinated Measures to Counter the Energy Crisis

5.2.1 REPowerEU

The escalation of the military conflict between the Russian Federation and Ukraine has highlighted the EU bloc's excessive dependence on fossil fuel imports from Russia, thus heightening concerns about energy security in the European Union. The new geopolitical and economic reality has prompted the European Union to diversify energy supply sources and accelerate the transition to clean energy. In response to the difficulties and disruptions in the global energy market, the European Commission presented the communication "REPowerEU: joint European actions for more affordable, secure, and sustainable energy" on 8 March 2022, and on 23 March 2022 communication "Security of supply and affordable electricity prices: options for immediate measures and preparing for the coming winter". During the meeting held on March 24-25, 2022, EU leaders discussed issues related to ensuring the security of energy supply at the European level. As there is full agreement between the conclusions adopted during this meeting and the Declaration of Versailles, presented at the informal meeting of heads of state and government on 10-11 March 2022, the European Council agreed to gradually and as soon as possible eliminate the dependence of the Community bloc of gas, oil, and coal imports from the Russian Federation (European Council, 2022). In May 2022, the Commission presented the REPowerEU plan, setting out a series of measures to help rapidly reduce the European Union's dependence on fossil fuels from the Russian Federation by accelerating the transition to clean energy (electricity produced from renewable sources and hydrogen) and combining efforts to build a more resilient energy system and a true energy union. The "REPowerEU" plan contains measures to reduce the European Union's energy dependence on fossil fuels imported from Russia, and at the same time accelerates with new actions the implementation of the European Green Deal, taking into account the legislative package "Fit for 55" (European Council, 2023b).

The "REPowerEU" plan is based on saving energy, diversifying supply sources, and producing clean energy. In the short term, saving energy is the easiest and cheapest way to reduce dependence on fossil fuel imports from Russia. Regarding the diversification of energy imports, the plan supports the intensification of the collaboration of the community bloc with international partners to diversify sources of supply and mitigate the increase in energy prices. Currently, the diversification of

sources refers to the alternative supply of gas, oil, and coal, but in the future hydrogen produced from renewable energy sources will also be added. About the rapid replacement of fossil fuels by accelerating the transition to clean energy, the plan targets the electricity production, industry, transport, and construction sectors. The main pillars in this direction are the green transition and the stimulation of investments in energy from renewable sources.

To diversify the supply, the European Union began to collaborate with various international partners, managing to register a record of imports of liquefied natural gas. In the first half of 2022, LNG imports from outside the Russian Federation (USA, Canada, Norway) increased by 19 billion cubic meters compared to the same period last year. The EU bloc has also increased its cooperation with Azerbaijan, especially regarding the southern gas corridor. The European Union signed the Trilateral Memorandum of Understanding with Egypt and Israel for the export of natural gas, relaunched the energy dialogue with Algeria, and continued to cooperate with the major producers in the Persian Gulf, as well as with Australia. Pipeline imports from outside Russia (Norway, Azerbaijan, the United Kingdom, and North Africa) increased by 14 billion cubic meters in the first half of 2022 compared to the same period last year.

At the same time, to guarantee the security of the energy supply, in June 2022 the Council adopted the Regulation on gas storage. The new rules required that in the underground gas storage facilities on the territory of the member states stocks should be established at a minimum level of 80 % for the winter of 2022-2023 and 90 % of the capacity before the beginning of the following winter periods.

To ensure the EU's energy supply at affordable prices, the Commission and Member States have set up a platform for the joint purchase of gas, LNG, and hydrogen, thus seeking to make the most of the EU's collective purchasing power. Among the purposes of establishing this voluntary coordination mechanism are to obtain more favorable prices than when each country negotiates separately, to improve transparency in this area and to support smaller member states that are in a less favourable situation as buyers.

With investments made in the infrastructure, namely the construction of LNG terminals and the creation of natural gas interconnections, each EU member state can receive gas from at least two sources, with reversed flows between neighbouring countries also possible. On May 1, 2022, the Poland-Lithuania gas interconnector began its commercial activity, which strengthens the optionality and resilience of the entire Baltic gas market, and on October 1 of the same year, the Greece-Bulgaria gas interconnector was inaugurated.

5.2.2 EU Sanctions against Russia

Since March 2014, the European Union has progressively imposed restrictive measures against Russia in response to the crisis in Ukraine. In 2022, the EU massively expanded sanctions against the Russian Federation in response to the outbreak of military conflict on 24 February 2022 and Russia's decision to recognise the independence of Donetsk, Luhansk, Zaporizhia, and Kherson regions. Since February 2022, the EU has adopted ten sanctions packages against Russia. Thus, the

Russian Federation became the most sanctioned country in the world for the first time, surpassing Iran, Syria, North Korea, and Venezuela in this regard.

The toughest measures ever taken by the EU bloc against a foreign country include individual and economic sanctions, media restrictions, diplomatic measures, visa measures, restrictions on economic relations in specific areas, and economic cooperation measures. The economic sanctions adopted against Russia by the EU target the financial, trade and energy sectors, as well as the transport, technology, and defense sectors.

The restrictive measures imposed by the European Union in the energy field refer to the price capping regarding the maritime transport of crude oil and petroleum products. Also, the sanctions in this field provide for the prohibition of coal imports and oil imports (with some exceptions) from the Russian Federation, exports to Russia of products and technologies from the oil refining sector, making new investments in the Russian energy and mining sector, and providing of gas storage capacity (except for the corresponding part of LNG facilities) to Russian nationals (European Council, 2023a).

The sixth package of sanctions, adopted by the EU Council, prohibits the purchase, import, or transfer of crude oil and certain petroleum products by sea from the Russian Federation to the European Union. The embargo on crude oil entered into force on December 5, 2022, and the restrictions on other refined petroleum products apply from February 5, 2023. At the same time, a temporary exception was provided for crude oil imports via pipelines in the member states of the community block, which, due to the geographical situation, are specifically dependent on Russian energy resources and there are no viable alternative supply options. However, Member States benefiting from this exemption are not allowed to resell crude oil and petroleum products to other Member States or third countries. The Council also determined that Bulgaria and Croatia would benefit, specifically, from temporary exemptions on the import of Russian seaborne crude oil and vacuum diesel, respectively. Bulgaria was granted a special temporary derogation until the end of 2024, and Croatia was allowed imports necessary to operate its refinery until the end of 2023.

The EU bloc has banned ships from the European Union from transporting Russian crude oil and petroleum products to third countries, but this ban does not apply if the crude oil or petroleum products are purchased at or below the oil price ceiling. The price ceiling applies to seaborne crude oil, petroleum oils, and oils obtained from bituminous minerals originating in or exported from the Russian Federation. In December 2022, the EU Council, together with the Price Capping Coalition, set the ceiling level for crude oil at USD 60/barrel (Council of the EU, 2022), followed by two more price ceilings for the same product category in February 2023. Thus, the first price ceiling for oil products traded below the nominal value of crude oil was set at USD 45/barrel, and the second price ceiling for oil products traded above the nominal value of crude oil was set at USD100/barrel (Council of the EU, 2023). Taking into account market developments and technical

changes, the current value of these ceilings is to be reviewed and adjusted periodically.

As the majority of Russian oil is delivered to the EU by sea, the European Union imposed these restrictive measures to limit the steep increases in fossil fuel prices and significantly reduce the Russian Federation's oil export revenues.

6. Conclusions

Following the analysis, it was determined that the current energy crisis highlights the need for a review of how the security of the EU's energy supply is guaranteed. The REPowerEU plan and the sanctions packages imposed by the EU against Russia, which also include restrictive measures in the energy field, are the most important measures adopted at the level of the entire EU bloc regarding combating the current energy crisis. Reducing the EU's dependence on fossil fuels from the Russian Federation is essential for strengthening the EU's energy resilience and autonomy, especially in the event of an energy shortage. Given that the ambitions of the European Union are not limited to independence from the supply of fossil fuels from Russia, but to achieve independence from fossil fuels as a whole, the authors of the article believe that this energy crisis represents the right opportunity to accelerate the transition to renewable sources of energy. Saving energy, diversifying supply sources, developing LNG stations, developing the internal transport network, and developing internal renewable energy production are the main ways in which the European Union can gradually eliminate its dependence on Russian energy resources. Even if some results have already been recorded due to the adopted measures, the authors of the article believe that it is premature to pronounce on their success, as time is needed to achieve the objectives proposed by the European Union. The reality of our days is an impetus to accelerate the transition from conventional to renewable energy resources, but also a challenge in terms of the power to supply various sectors of the economy with alternative energy resources. Given the different energy mixes, conditions, and circumstances of the EU Member States, only the unity between the EU countries and how the decision-makers will implement the proposed measures to the end will determine whether the EU Member States will succeed in meeting the objectives of the European Green Deal.

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