24. Kovalenko, O. «Ukrzaliznytsia» will close about 70 stations: what is the reason, *UNIAN, News Agency,* 26.06.2023. URL: https://www.unian.ua/economics/transport/ukrzaliznicya-zakriye-chastinu-zaliznichnih-stanciy-12308262.html (in Ukraine).

25. Gordiychuk, I. (2023). Ukrzaliznytsia wants to close about 70 stations: what will happen instead, *GLAVKOM*, 26.06.2023. URL: https://glavcom.ua/country/society/ukrzaliznitsja-khoche-zakriti-blizko-70-stantsij-shcho-bude-natomist-937465.html (in Ukraine).

Матеріал надійшов до редакції 06.09.2023 р.

UDC 327:620.9€C"2022/2023"

Nataliia Khoma,
Doctor of Political Sciences, Professor,
Department of Political Science and International Relations,
Lviv Polytechnic National University,
nataliia.m.khoma@lpnu.ua
ORCID ID: 0000-0002-2507-5741;

Oksana Khimiak,
Candidate of Historical Sciences, Associate Professor,
Department of Political Science and International Relations,
Lviv Polytechnic National University,
oksana.m.khimiak@lpnu.ua
ORCID ID: 0009-0005-9748-0809
DOI

GEOPOLITICAL FACTOR IN THE TRANSFORMATION OF EU ENERGY POLICY (2022–2023)

The purpose of the article is to analyse the influence of geopolitical factors on the transformation of EU energy policy in 2022–2023. The research methodology is based on institutional analysis. The working hypothesis that the modern energy policy of the EU is primarily determined by geopolitics is confirmed. The paper examines the range of decisions of the EU institutions and national governments of the EU states in response to the impact of geopolitics on the energy sphere. It is revealed how energy-exporting states

(first of all – Russia) resort to various forms of pressure to obtain certain political decisions from energy-dependent states. It is determined that under the conditions of the current geopolitical challenges, the main objectives of the EU energy policy are: diversification of energy sources and sources of supply of imported energy; formation of a fully integrated internal energy market with proper infrastructure and without barriers (technical, regulatory, etc.); improvement of energy efficiency; reduction of dependence on the import of energy resources, etc. The paper argues that reforms in the EU are aimed at mitigating the geopolitical influence on the energy sector, reducing the risks of a sharp increase in energy prices, accelerating the energy transition, and achieving energy independence. The challenges to the energy security of the EU are as follows: 1) the EU's still strong dependence on the import of energy resources; 2) significant differences in the energy strategies of the EU states, their lack of solidarity in matters of reforming the energy sector; 3) probability of new supply risks from third countries with which trade in energy resources is established, as well as from countries that extract and enrich metals necessary for the introduction of clean technologies. The need for strong political will of the EU institutions and national governments of the EU states to consistently implement the planned reforms is emphasized, since energy problems pose a significant threat to security at all levels.

Key words: EU, energy policy, geopolitical influence, energy security, weaponization of energy resources, global energy transition, Russia, Russia's war against Ukraine.

Наталія Хома,
Національний університет «Львівська політехніка»,
ORCID ID: 0000-0002-2507-5741;

Оксана Хімяк,
Національний університет «Львівська політехніка»,
ORCID ID: 0009-0005-9748-0809

ГЕОПОЛІТИЧНИЙ ЧИННИК ТРАНСФОРМАЦІЇ ЕНЕРГЕТИЧНОЇ ПОЛІТИКИ ЄС (2022–2023 РР.)

Метою статті є аналіз впливу геополітичного чинника на трансформацію енергетичної політики ЄС у 2022–2023 роках. Методологія дослідження опирається на інституційний аналіз.

Підтверджено робочу гіпотезу про те, що сучасна енергетична політика ЄС найперше визначається геополітикою. Досліджено комплекс рішень інституцій ЄС та національних урядів держав ЄС у відповідь на вплив геополітики на енергетичну сферу. З'ясовано, як держави-експортери енергоресурсів (найперше – Росія) вдаються до різних форм тиску з метою домогтися від енергетично залежних держав певних політичних рішень. Визначено, що в умовах нинішніх геополітичних викликів основними цілями енергетичної політики ЄС є: диверсифікація джерел енергії та джерел постачання імпортованої енергії; формування повністю інтегрованого внутрішнього енергетичного ринку з належною інфраструктурою та без бар'єрів (технічних, регуляторних та ін.); підвищення енергоефективності; зменшення залежності від імпорту енергоресурсів і т. ін. Аргументовано, що реформи в ЄС спрямовані на пом'якшення геополітичного впливу на енергетичний сектор, зменшення ризиків різкого зростання цін на енергоносії, прискорення енергетичного переходу, досягнення енергонезалежності. Проблемами для енергетичної безпеки ЄС визначено: 1) досі сильну узалежненість ЄС від імпорту енергоресурсів; 2) значні розбіжності у енергетичних стратегіях держав ЄС, їх недостатня солідарність у питаннях реформування енергетичного сектора; 3) ймовірність нових ризиків постачання від третіх держав, з якими налагоджується торгівля енергоресурсами, а також від держав, які видобувають та збагачують метали, необхідні для впровадження «чистих» технологій. Наголошено на необхідності сильної політичної волі інституцій ЄС та національних урядів держав ЄС для послідовної реалізації запланованих реформ, позаяк енергетичні проблеми становлять значну загрозу для безпеки на всіх рівнях.

Ключові слова: ЄС; енергетична політика; геополітичний вплив; енергетична безпека; вепонізація енергоресурсів; глобальний енергетичний перехід; Росія; війна Росії проти України.

1. INTRODUCTION

Statement of the problem. The study of the energy policy of the EU and the factors that influence it is important in view of the perspective of Ukraine's European integration. Since Ukraine has joined the European energy system ENTSO-E, and is also substantially dependent on EU support in times of war for the functioning of the energy sphere, a wide range of issues related to the functioning of

the EU energy system and to its energy security are of crucial interest to Ukraine. Currently, the energy spheres of both EU countries and Ukraine are more vulnerable than ever and are under such pressure that they have not faced before.

Over the past half-century, the EU states have discussed energy policy and energy-related issues quite intensively. After 2006, they became more active due to climate changes [22]. The next factor that affected energy security was the COVID-19 pandemic [21]: as a result of the pandemic containment policy, energy demand decreased; the slowdown in economic and industrial activity led to a significant drop in global energy demand; numerous investment projects in renewable energy were suspended. However, Russia's full-scale aggression against Ukraine provided the strongest impetus for the EU energy policy debate. 2022–2023 saw bold and decisive changes that would otherwise have taken much longer.

Among the many factors that affect the energy sphere of the EU and the states that interact with it in the energy sphere, geopolitical factors have the greatest influence today, according to our working hypothesis. It is these factors that determine the dynamic changes that currently characterize the energy sphere of the EU.

Analysis of recent studies and publications. Energy policy issues are actively presented in the documents of EU institutions, as well as national governments. In 2022–2023, scientific studies began to appear about the transformation of EU energy policy under the influence of Russian aggression [16; 17; 19; 24]. The security dimension of energy policy is at the centre of recent publications in such scientific journals *as Energies, Energy, Energy Policy, Energy Research & Social Science, Energy Strategy Reviews, Sustainability and Society, Joule, Renew Energy, etc*. At the same time, the topic of the influence of geopolitics on energy policy is now so dynamic that it requires permanent monitoring and updating given the emergence of new challenges.

The purpose of the article is to analyse the impact of geopolitical factors on the transformation of EU energy policy in 2022-2023.

Research methodology. The research methodology is based on institutional analysis. The study examines the range of actions, decisions, and positions of EU authorities and national governments of EU states in response to the influence of geopolitical factors on energy policy. It is revealed how the energy-exporting states (first of all – Russia) resort to various forms of pressure and blackmail to achieve certain political goals from energy-dependent states.

2. RESEARCH RESULTS

The processes of European integration began precisely around the problem of energy resources. The Treaty establishing the European Coal and Steel

Community (1951) united the strategic industries of six Western European countries; the Treaty establishing the European Atomic Energy Community (1957) laid the foundations for cooperation between states in the field of peaceful use of nuclear energy. The founding treaties of the EU (1958, 1992) established the basic legal principles that are used to develop a joint policy of the EU member states in the energy sphere.

The states that formed the basis of the European integration union, already from the start of these processes, displayed certain differences – in energy balances, transport routes, structure of energy markets, etc. This did not contribute to the development of a common energy policy, and thus required discussion and agreement. Individual European states argued that the energy sector should be the sphere of sovereign rights of each state of the European community. Consequently, the EU states had been discussing this for a long time, but no comprehensive energy policy was developed.

Title 21 of the Treaty on the Functioning of the European Union (TFEU) laid down the foundations for a common energy policy [23]. Article 122 provides for EU measures in case of serious complications in the area of energy. Article 194 establishes the principle of solidarity in the field of energy policy. Many issues of energy policy were assigned to joint competence, which indicated the intention of EU member states to implement a consolidated energy policy. At the same time, each EU state retained the right to determine the conditions for exploiting its own energy resources, choose between energy sources, and decide the general structure of its energy supply, etc. [4].

The priorities of the EU's new energy policy in the 21st century were presented by the European Commission on January 10, 2007, in the document An Energy Policy for Europe. In the 2000s, when revising the energy strategy, the European Commission proceeded from three basic criteria: 1) combating climate change; 2) reducing the EU's vulnerability to external factors, in particular – dependence on hydrocarbon imports; 3) promoting economic growth and employment of the population by ensuring the security of energy supplies and their availability for consumers.

Since 2009, the EU has had a special mechanism for checking energy projects, known as the Gazprom clause. It requires EU member states to assess the energy security risks that are posed by non-EU investors in national transport systems. It was on this basis that Germany suspended certification of the Nord Stream 2 gas pipeline in February 2022, pending a new security assessment in light of Russia's invasion of Ukraine.

The Third Energy Package (2009–2014) played an important role in developing the energy policy of the EU in line with the needs of the time. This

is a package of legal acts (Directive 2009/72/EC, Directive 2009/73/EC, etc.) regarding the internal market of gas and electricity. Its purpose was to create a single gas and electricity market in the EU, and conditions for competition. The Third Energy Package focused on such issues as reorganization of energy companies' assets, creation of national independent regulators, cooperation between states, fair retail energy markets, etc.

In 2015, the Strategy for a European Energy Union was adopted [6]. The objectives of the energy policy are defined as: diversification of sources of electricity generation in Europe; implementation of energy supply on the basis of cooperation and solidarity between the states of the Energy Union; full integration of the internal energy market of the Energy Union, setting the free movement of energy through its territory without establishing regulatory barriers; improvement of energy efficiency and reduction of dependence on the import of energy resources from third countries; reduction of emissions; provision of jobs for specialists in the field of energy; decarbonization of the economy; movement towards the implementation of the Paris Climate Agreement; promotion of research on decarbonization of the economy and innovations in the field of energy. In October 2018, the current EU energy targets were revised, as new tasks were updated .

From 2019, the development of EU energy policy takes place within the framework of the Fourth Energy Package, called the Clean Energy for All Europeans. The formation of this package of legislative initiatives became one of the stages of the implementation of the Strategy for a European Energy Union. Its objectives are: development of renewable energy sources; increase in energy efficiency; fight against climate change; coordination of actions to achieve the goals of the Energy Union. Consequently, at this stage, the main emphasis was on the need to reduce greenhouse gas emissions in order to prevent irreversible damage to the ecosystem. The approval of the European Green Deal (2020) was of great importance in the context of combating destructive climate actions from the operation of energy facilities. The Fit for 55 package of regulatory proposals was presented by the European Commission in 2021. This set of initiatives was meant to update EU legislation and align energy policy with climate goals.

However, geopolitical influences on energy policy were not discussed enough at this stage. Despite diversification and internal energy security measures taken after the 2009 gas crisis, EU member states until the beginning of 2022 were heavily dependent on Russia as a supplier state, which not only received income from fossil fuel exports but also used energy as a weapon. Almost 50% of the gas imported to the EU before the full-scale invasion of Ukraine came from Russia.

When it comes to threats to the EU's energy security caused by Russia's policy, it is important to understand that this problem did not arise overnight, but dates back to the Soviet period. Today, those energy supply networks that began to form at the end of the 1960s are painfully broken [13; 14]. Most EU states from Central Europe were part of the Warsaw Pact bloc, and some European states cooperated with the Soviet regime. An example of the latter is Austria, which in 1968 signed the Soviet-Austrian agreement on the supply of gas from the USSR; in 1970, an agreement was concluded on the supply of Austrian gas pipes to the USSR in exchange for gas. This is only one of the examples of how the dependence of European states on Russian energy resources was formed.

So, even during the Soviet era, thanks to the network of gas and oil pipelines in Central and Eastern Europe, a system of energy-dependent states was created [14]. As a result, the industry and households of many European countries gradually became heavily dependent on the Soviet, and after 1991, Russian natural resources [14; 18; 19]. The Soviet regime received hard currency from the export of oil and gas resources, even though these revenues helped finance aggressive foreign policies, such as the 1979–1989 war in Afghanistan [12; 13, p. 143; 17, pp. 533–534]. Rent from fossil fuels contributed to Russia's aggressive foreign policy [25, p. 59].

At that time, European states considered the benefits of such dependence on the energy exporter to be higher than the price of their own energy independence [15, pp. 9–10]. This happened despite warnings that were publicly voiced about Russia's potential weaponization of energy resources and threats to European states [2]. For example, in 2009, under the influence of Russia's invasion of Georgia (2008), intellectuals of Central and Eastern Europe (L. Wałęsa, V. Havel, I. Krastev, etc.) wrote an open letter to the administration of Barack Obama [1], where concerns about Europe's dependence on Russian energy resources were expressed. In 2014, after Russia violated the territorial integrity and sovereignty of Ukraine, the Prime Minister of Poland D. Tusk said that no matter how the confrontation around Ukraine developed, one lesson was clear: excessive dependence on Russian energy makes Europe weak [3]. The network of energy connections with consumers, transit states, consumer states, etc. was so complicated that after the annexation of Crimea and the start of the Russian-Ukrainian war in 2014, the EU did not even impose sanctions on Russia's energy sector [11]. Seeing the actual impunity, Russian corporations Rosneft, Gazprom, etc. continued to abuse their dominant position in the market for the realization of their strategic goals.

Even before Russia's full-scale invasion of Ukraine, EU institutions and the governments of EU member states discussed the urgency of reducing de-

pendence on energy imports from Russia, which repeatedly resorted to weaponization of energy. However, these processes were slow and faced significant opposition from influential pro-Russian lobbyists. Russia's full-scale invasion of Ukraine and the subsequent energy crisis provoked by Russia in response to the EU's sanctions policy became a turning point. Postponing the issue of reducing dependence on the import of Russian energy sources would have caused severe reputational losses for the EU because such a policy would have led to the strengthening of the aggressor state. In 2022–2023, the EU took gradual steps to minimize energy dependence on Russia and protect the energy sovereignty of EU states. The basis of energy sovereignty and security began to be seen in the availability and reliability of energy supplies.

V. Putin's threat to create catastrophic consequences on the world energy market [20] in response to the sanctions introduced against Russia, once again actualized the role of energy as a type of weapon. Russia used gas blackmail as the main tool of pressure on the EU. And this had happened even before the full-scale invasion of Ukraine. For example, in 2021, Russia limited gas supplies in order to force the EU to withdraw its support for Ukraine and achieve the lifting of sanctions. Gazprom slowed down the sales of natural gas to European buyers, depleting storage and reducing pipeline flows. Russia also resorted to energy blackmail, demanding to speed up the certification of Nord Stream 2. In April 2022, the supply of gas to natural gas distribution companies Bulgargaz (Bulgaria) and PGNiG (Poland) was stopped due to non-payment in rubles. Since May 15, 2022, electricity has not been supplied to Finland. The list of examples is extensive. With threats to "freeze Europe", etc., Russia demonstrated the possibility of using its fossil fuels as a weapon.

Against the background of Russia's full-scale invasion of Ukraine and the introduction of new anti-Russian sanctions, the schedule of reforms in the EU energy sector was revised. Russia's weaponization of energy resources accelerated the transition to clean energy sources and intensified the issue of energy saving. The EU did not respond to the ultimatum of the Russian authorities regarding payment for gas in rubles.

In the Versailles Declaration [26], approved by the heads of state and government of the EU on March 11, 2022, a separate section was devoted to the issue of reducing energy dependence, since the current situation required a speedy review of those instruments that could ensure energy security in the face of new geopolitical challenges. As a result, the EU member states agreed to end dependence on the import of Russian fossil energy sources as soon as possible by: 1) accelerating the reduction of dependence on fossil fuels; 2) diversification of supply and routes of energy resources; 3) acceleration of the development

of the European hydrogen market and renewable energy sources in general; 4) complete synchronization of power grids within the borders of the EU states; 5) improvement of energy efficiency and management of energy consumption, etc. The Versailles Declaration brought energy policy to the centre of EU policy, emphasizing the need to build European energy sovereignty.

The energy crisis and the rise in energy prices due to Russia's policy have imbalanced the economies of the EU states since the beginning of 2022 [16; 27]. There was a significant increase in the prices of energy supplies, and therefore the issue of accelerated transition to renewable energy sources and high standards of energy saving as the most important tools for solving the energy crisis became relevant [5; 24]. Almost all governments of the EU countries implemented a policy of motivating citizens to save gas and electricity. Thus, Russia's aggressive policy and its weaponization of energy resources intensified the policy of the EU institutions and the national governments of the EU states to change the behaviour of energy consumers.

Given the growing threats to energy security, the European Commission adopted numerous acts and decisions related to energy. In particular, on March 8, 2022, the European Commission's communication REPowerEU: Joint European Action for More Affordable, Secure and Sustainable Energy was published [10]. It substantiates the need to accelerate the transition to clean energy sources in order to strengthen Europe's energy independence. Overcoming dependence on Russian fossil fuels was characterized as a way to quickly change the energy balance in the EU states. This communication outlined the willingness of the European Commission to develop the REPowerEU Plan in cooperation with Member States to achieve these goals. On May 18, 2022, this plan was approved [9]. The reason for the approval of the REPowerEU Plan was the need to urgently solve two problems: 1) to get rid of the dependence of the EU economies on Russian energy resources as soon as possible; 2) to achieve previously set climate goals.

The REPowerEU Plan aims to promote the energy independence of the EU states. Since the energy sector of the EU functions under the conditions of a set of challenges (geopolitical, climatic, economic, social, etc.), the developed response to them was integrated. The plan provides for a gradual complete abandonment of Russian gas, an accelerated transition to clean energy sources, the creation of a unified platform for purchasing resources and resolving the climate crisis, etc. The implementation of REPowerEU is expected to result in an accelerated transition to renewable energy sources in industry and at the household level.

The REPowerEU Plan sets out proposals in many areas, including an ambitious and more concrete EU energy diplomacy. The goal is to get rid of the EU's

energy dependence on Russia by 2027. This is planned to be achieved through: 1) replacing gas and oil imported from Russia with renewable energy sources; 2) improving energy efficiency; and 3) increasing EU imports of energy supplies from non-Russian sources. Measures to improve energy efficiency and search for alternative sources of natural gas imports are combined with increased consumption of biomethane and hydrogen. An important feature of the implementation of the REPowerEU Plan is interstate coordination. All national initiatives must be coordinated at the cross-border level to achieve the maximum effect of the reforms.

In the first year after Russia's full-scale invasion of Ukraine, the EU already reduced its dependence on Russian gas to 10 %. Total EU gas imports from Russia decreased from 155 billion cubic meters in 2021 to 80 billion cubic meters in 2022. Several large companies (PGNiG (Poland), Gasum (Finland), Shell Energy (Germany), etc.) refused to pay in rubles for Russian energy resources. This triggered rapid transition processes from dependence on Russian hydrocarbon imports to active diversification of energy sources and methods of energy supply. The energy crisis initiated by Russia launched many processes: construction of new terminals for imported liquefied natural gas was accelerated, renewable energy installations were deployed, sources and routes of energy supply were diversified, etc. In the first year of Russia's full-scale invasion of Ukraine alone, the EU and its member states concluded about a hundred agreements on cooperation in the area of energy with the USA, Azerbaijan, Norway, Qatar, Algeria, and other states, and more than half of the agreements concerned clean energy.

One of the tools for the EU to overcome the current energy crisis was the launch of the EU Energy Platform (AggregateEU) on April 25, 2023 [7]. It aims to help fill European storages and prevent unhealthy competition between EU countries on world markets for fuel. This instrument for joint gas purchases created a pool of natural gas buyers and brought them together with sellers to avoid price spikes. Within AggregateEU, demand is aggregated and joint purchases are made. AggregateEU organizes tender rounds every two months. 25 gas suppliers joined the first round in May 2023, and the most attractive proposals were selected. Importantly, the platform is also open to Ukraine, as well as Moldova, Georgia and the Western Balkans, to coordinate efforts and facilitate joint procurement of gas and hydrogen.

In 2022, active diversification of supplies began, first of all, of liquefied natural gas and hydrogen. To be specific, in March 2022, the European Commission agreed with the USA on the additional supply of liquefied natural gas through exports from the USA. After concluding such an agreement, the USA

became one of the leading suppliers of liquefied natural gas to the EU. As early as June 2022, the volume of supplies from the USA to the EU increased significantly by 75 % compared to 2021. The EU-US Energy Council, in particular, is responsible for organizing this process. Initially, the prices for liquefied natural gas from the USA were quite high for the EU, but they were gradually reduced. Individual EU member states sign independent agreements with the USA, for example, Germany's largest electricity producer RWE AG concluded an agreement with the American company Sempra Energy on the purchase of liquefied natural gas.

Also, in 2022, the EU intensified cooperation with Canada on the supply of liquefied natural gas and hydrogen [8]. Cooperation towards the transition to zero energy consumption is deepening. A special working group on the ecological transition and liquefied natural gas was created. The European Commission also actively participated in the clean technologies summit held by Canada (Canada-EU CETA Cleantech Summit, September 15–16, 2022).

On June 15, 2022, the EU concluded a historic tripartite gas supply agreement with Israel and Egypt. The agreed mechanism is in line with the EU's supply diversification strategy to gradually phase out Russian energy resources. Also, these agreements allow Israel to significantly increase the export of gas extracted from fields near the Mediterranean coast, and to become a prominent player in the European energy market. The fuel is processed at liquefied natural gas plants in Egypt and then delivered to EU member states. Other supply routes, for example, through pipelines laid on the seabed, may also be developed. At the same time, it is currently unclear whether the escalation of the Arab-Israeli conflict on October 7, 2023, will affect the implementation of this agreement.

Other states are also involved in the process of guaranteeing EU energy security. For example, Japan and South Korea diverted some liquefied natural gas shipments to Europe in 2022; Qatar concluded agreements with individual EU states. This is a far from complete list of states that reacted to the EU's decision to abandon Russian energy resources. It can be observed that the Russian aggression activated many processes that have not been discussed so far.

Despite the political will demonstrated by the EU institutions, even under such an extraordinary geopolitical situation, at the end of the second year of the full-scale Russian-Ukrainian war, there were and still are governments of the EU countries that lobby for the interests of Russia and even increase cooperation in the energy sector (gas imports, nuclear power). In 2022–2023, problems with solidarity between EU states became acutely apparent in the energy sector. The most vivid example of this is Hungary.

According to our estimates, the EU has drawn conclusions from its gas dependence on Russia and therefore is building a system of energy security in such a way as to prevent the emergence of any new dependence on other states that export fuel and energy resources. This is important because the role of fossil fuels will not decrease noticeably in at least the next decade. The transition from fossil fuels to clean energy sources will be gradual and this process will probably last several decades. This may result in new challenges to European energy security caused by the functioning of raw material supply chains, unequal access to clean energy sources, cyber security, etc.

In the context of the above-mentioned potential challenges, let us pay attention to a challenge that can become no less aggressive than Russi's current weaponization of energy. It is about the probability of dependence of the EU states on those few states that extract and enrich metals for clean technologies, for example, lithium-ion batteries. Rare metals and critical minerals (bauxite, lithium, titanium, strontium, rare earth elements, etc.) are the foundation for a successful green transformation. A carbon-free future implies the mass use of electric cars, wind turbines, solar panels, energy storage, etc. Their volumes depend on the availability of critically important raw materials, which are the main basis for the creation and operation of these devices. The EU is already experiencing shortages in the supply of minerals, metals and advanced critical materials, which are key to achieving the objectives of the European Green Deal. Demand far exceeds supply. The problem is that the main country of extraction and enrichment of such metals is China. Since China is a neo-authoritarian state, numerous challenges are possible for the EU in establishing a stable supply system, a reliable resource base for the introduction of clean technologies. Since humanity has repeatedly seen that fossil fuels and critically important natural resources are the main, fundamental reasons for military conflicts, geopolitical changes, the EU has already begun preparations for probable competition for rare metals and critically important minerals, which are necessary for the transition to clean technologies.

3. CONCLUSIONS AND PROSPECTS FOR FUTURE RESEARCH

EU energy policy is determined by geopolitics. Russia's weaponization of energy resources in response to sanctions caused a gradual change in the EU's energy resource suppliers, accelerated the development of renewable energy sources, intensified the issue of energy saving, etc. Against the background of modern challenges to energy security, the main objectives of the EU energy

policy are: diversification of energy sources and sources of supply of imported energy; ensuring the functioning of a fully integrated internal energy market with proper infrastructure and without barriers (technical, regulatory, etc.); increasing energy efficiency; reduction of dependence on the import of energy resources; promoting research and innovation to stimulate the energy transition, etc. The reforms initiated by the EU institutions are directed at mitigating the geopolitical influence on the energy sector, reducing the risks of a sharp increase in energy prices, accelerating the energy transition, and achieving energy independence. Among the already implemented initiatives to ensure energy security are the creation of a single platform for the purchase of liquefied gas and hydrogen, the introduction of the AggregateEU mechanism for joint gas purchases, etc. However, some problems remain, for example: 1) the share of EU energy imports is still very high; 2) new risks of supply from third countries with which the export of energy resources is currently being established, as well as from countries that have resources for the implementation of clean technologies (copper, lithium, nickel, manganese, cobalt, graphite, zinc and rare earth metals, etc.) are not excluded. At present, the EU is paying a lot of attention to preventing potential energy security risks that may be caused by new supply chains.

The EU intends to transform the strong dependence on fossil fuel imports (from Russia and other countries) into an accelerated energy transition. In this way, the EU claims potential leadership in the global energy transition. Nevertheless, in practice, significant differences in energy strategies and insufficient solidarity remain between EU states. This makes it difficult to achieve the goals for reforming the energy sector, which are determined by the EU institutions and agreed with the governments of the EU states. Energy has become an area that tests the solidarity of the EU states and the resilience of the EU in general. A strong political will of the governing institutions of the EU and the national governments of the EU states is necessary for the consistent implementation of the planned reforms because energy problems pose a critical threat to security at all levels.

Since the energy sector is one of the most “turbulent”, it is important to study the dynamics of EU and EU member states’ policies. This opens up the prospect for further research into EU energy policy and its impact on the functioning of the energy sector of Ukraine.

СПИСОК ВИКОРИСТАНИХ ДЖЕРЕЛ

1. Adamkus V. et al. (2009). Open Letter to the Obama Administration from Central and Eastern Europe. Gazeta Wyborcza. 16 Jul.

2. Bouzarovski, S., Bradshaw, M., Wochnik, A. (2015). Making Territory Through Infrastructure: the Governance of Natural Gas Transit in Europe. Geoforum, № 64, pp. 217–228.

3. Collins, G. (2017). Russia's Use of the "Energy Weapon" in Europe. Issue brief. Houston: Rice University's Baker Institute for Public Policy.

4. Consolidated Version of Treaty on the Functioning of the European Union. URL: https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:12012E/TXT&from=EN

5. Creutzig, F. (2022). Fuel crisis: slash demand in three sectors to protect economies and climate. Nature, № 606 (7914), pp. 460–462.

6. Energy Union (2015). New impetus for coordination and integration of energy policies in the EU. URL: https://www.europarl.europa.eu/RegData/etudes/BRIE/2015/551310/EPRS_BRI(2015)551310_EN.pdf

7. European Commission (2022). Energy Security: Commission hosts first meeting of EU Energy Purchase Platform to secure supply of gas, LNG and hydrogen. URL: https://ec.europa.eu/commission/presscorner/detail/en/ip_22_2387

8. European Commission (2022). Joint Statement by President von der Leyen and Prime Minister Trudeau. URL: https://ec.europa.eu/commission/presscorner/detail/en/STATEMENT_22_1989

9. European Commission (2022). REPowerEU Plan. URL: https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=COM:2022:230:FIN

10. European Commission (2022). REPowerEU: Joint European Action for more affordable, secure and sustainable energy. URL: https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=COM:2022:108:FIN

11. European Parliament (2018). Energy as a Tool of Foreign Policy of Authoritarian States, in Particular Russia. URL: https://www.europarl.europa.eu/RegData/etudes/STUD/2018/603868/EXPO_STU(2018)603868_EN.pdf

12. Gaidar, Y. (2007). Collapse of an Empire: Lessons for Modern Russia by Yegor Gaidar. Washington: Brookings Institution Press.

13. Gustafson, T. (2020). The Bridge: Natural Gas in a Redivided Europe. Cambridge: Harvard University Press.

14. Högselius, P. (2013). Red Gas: Russia and the Origins of European Energy Dependence. New York: Palgrave Macmillan.

15. Keohane, R. O., Nye, J. S. (1989). Power and Interdependence. New York: Longman.

16. Kuzemko, C., Blondeel, M., Dupont, C., Brisbois, M. C. (2022). Russia's war on Ukraine, European energy policy responses & implications for sustainable transformations. Energy Research & Social Science, № 93, article 102842.

17. LaBelle, M. C. (2023). Energy as a Weapon of War: Lessons from 50 Years of Energy Interdependence. Global Policy, № 14 (3), pp. 531–547.

18. LaBelle, M. C. (2020). Energy Cultures. Technology, Justice, and Geopolitics in Eastern Europe. Cheltenham: Edward Elgar Publishing.

19. Ostrowski, W. (2022). The Twenty Years' Crisis of European Energy Security: Central and Eastern Europe and the US. Geopolitics, № 27 (3), pp. 875–897.

20. Sheppard, D., Ivanova, P. (2022). Putin Warns of 'Catastrophic' Energy Crisis if West Boosts Sanctions. Financial Times, 8 Jul.

21. Tayal, S., Singh, S. (2021). Covid-19 and opportunity for integrated management of water-energy-food resources for urban consumption. In: A. L. Ramanathan, Chidambaram

Sabarathinam, M. P. Jonathan et al. (Ed.), Purchase Environmental Resilience and Transformation in times of COVID-19, pp. 135–142. Amsterdam: Elsevier.

22. Tosun, J., Mišić, M. (2020). Conferring authority in the European Union: citizens' policy priorities for the European Energy Union. Journal of European Integration, № 42 (1), pp. 19–38.

23. Treaty of the Functioning of the European Union (2012). URL: https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=celex%3A12012E%2FTXT

24. Trypolska, G., Rosner, A. (2022). The Use of Solar Energy by Households and Energy Cooperatives in Post-War Ukraine: Lessons Learned from Austria. Energies, № 15 (20), article 7610.

25. Van de Graaf, T., Colgan, J. D. (2017). Russian Gas Games or Well-Oiled Conflict? Energy Security and the 2014 Ukraine Crisis. Energy Research & Social Science, № 24, pp. 59–64.

26. Versailles Declaration (2022). URL: https://www.consilium.europa.eu/media/54773/20220311-versailles-declaration-en.pdf

27. Zakeri, B., Paulavets, K., Barreto-Gomez, L. et al. (2022). Pandemic, War, and Global Energy Transitions. Energies, № 15, article 6114.

REFERENCE

1. Adamkus V. et al. (2009). Open Letter to the Obama Administration from Central and Eastern Europe. Gazeta Wyborcza. 16 Jul. (in English).

2. Bouzarovski, S., Bradshaw, M., Wochnik, A. (2015). Making Territory Through Infrastructure: the Governance of Natural Gas Transit in Europe. Geoforum, № 64, pp. 217–228 (in English).

3. Collins, G. (2017). Russia's Use of the "Energy Weapon" in Europe. Issue brief. Houston: Rice University’s Baker Institute for Public Policy (in English).

4. Consolidated Version of Treaty on the Functioning of the European Union. URL: https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:12012E/TXT&from=EN (in English).

5. Creutzig, F. (2022). Fuel crisis: slash demand in three sectors to protect economies and climate. Nature, № 606 (7914), pp. 460–462 (in English).

6. Energy Union (2015). New impetus for coordination and integration of energy policies in the EU. URL: https://www.europarl.europa.eu/RegData/etudes/BRIE/2015/551310/EPRS_BRI(2015)551310_EN.pdf (in English).

7. European Commission (2022). Energy Security: Commission hosts first meeting of EU Energy Purchase Platform to secure supply of gas, LNG and hydrogen. URL: https://ec.europa.eu/commission/presscorner/detail/en/ip_22_2387 (in English).

8. European Commission (2022). Joint Statement by President von der Leyen and Prime Minister Trudeau. URL: https://ec.europa.eu/commission/presscorner/detail/en/STATEMENT_22_1989 (in English).

9. European Commission (2022). REPowerEU Plan. URL: https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=COM:2022:230:FIN (in English).

10. European Commission (2022). REPowerEU: Joint European Action for more affordable, secure and sustainable energy. URL: https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=COM:2022:108:FIN (in English).

11. European Parliament (2018). Energy as a Tool of Foreign Policy of Authoritarian States, in Particular Russia. URL: https://www.europarl.europa.eu/RegData/etudes/STUD/2018/603868/EXPO_STU(2018)603868_EN.pdf (in English).

12. Gaidar, Y. (2007). Collapse of an Empire: Lessons for Modern Russia by Yegor Gaidar. Washington: Brookings Institution Press (in English).

13. Gustafson, T. (2020). The Bridge: Natural Gas in a Redivided Europe. Cambridge: Harvard University Press (in English).

14. Högselius, P. (2013). Red Gas: Russia and the Origins of European Energy Dependence. New York: Palgrave Macmillan (in English).

15. Keohane, R. O., Nye, J. S. (1989). Power and Interdependence. New York: Longman (in English).

16. Kuzemko, C., Blondeel, M., Dupont, C., Brisbois, M. C. (2022). Russia's war on Ukraine, European energy policy responses & implications for sustainable transformations. Energy Research & Social Science, № 93, article 102842 (in English).

17. LaBelle, M. C. (2023). Energy as a Weapon of War: Lessons from 50 Years of Energy Interdependence. Global Policy, № 14 (3), pp. 531–547 (in English).

18. LaBelle, M. C. (2020). Energy Cultures. Technology, Justice, and Geopolitics in Eastern Europe. Cheltenham: Edward Elgar Publishing (in English).

19. Ostrowski, W. (2022). The Twenty Years' Crisis of European Energy Security: Central and Eastern Europe and the US. Geopolitics, № 27 (3), pp. 875–897 (in English).

20. Sheppard, D., Ivanova, P. (2022). Putin Warns of 'Catastrophic' Energy Crisis if West Boosts Sanctions. Financial Times, 8 Jul. (in English).

21. Tayal, S., Singh, S. (2021). Covid-19 and opportunity for integrated management of water-energy-food resources for urban consumption. In: A. L. Ramanathan, Chidambaram Sabarathinam, M. P. Jonathan et al. (Ed.), Purchase Environmental Resilience and Transformation in times of COVID-19, pp. 135–142. Amsterdam: Elsevier (in English).

22. Tosun, J., Mišić, M. (2020). Conferring authority in the European Union: citizens' policy priorities for the European Energy Union. Journal of European Integration, № 42 (1), pp. 19–38 (in English).

23. Treaty of the Functioning of the European Union (2012). URL: https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=celex%3A12012E%2FTXT (in English).

24. Trypolska, G., Rosner, A. (2022). The Use of Solar Energy by Households and Energy Cooperatives in Post-War Ukraine: Lessons Learned from Austria. Energies, № 15 (20), article 7610 (in English).

25. Van de Graaf, T., Colgan, J. D. (2017). Russian Gas Games or Well-Oiled Conflict? Energy Security and the 2014 Ukraine Crisis. Energy Research & Social Science, № 24, pp. 59–64 (in English).

26. Versailles Declaration (2022). URL: https://www.consilium.europa.eu/media/54773/20220311-versailles-declaration-en.pdf (in English).

27. Zakeri, B., Paulavets, K., Barreto-Gomez, L. et al. (2022). Pandemic, War, and Global Energy Transitions. Energies, № 15, article 6114 (in English).

Матеріал надійшов до редакції 15.09.2023 р.