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## Energy policy of the EU in Central Asia

**ABSTRACT:** Sufficient national fossil resources and an independent water supply system are indispensable elements of the security structure of any state. Energy independence, as a factor in determining self-sufficiency, is now a basic requirement for countries or regions wishing to develop independently and freely. The purpose of this research is to identify the specifics of the European energy strategy in the Central Asian region by considering the basic areas of cooperation between the parties in this sector of the economy. This research paper has been prepared primarily using the following methods: historical, statistical, prognostic, synthesis, comparison and system analysis methods. The research delves into the intricate dynamics of foreign policy activities of European Union members concerning energy resources, particularly in a historical context. Analyzing the collaboration between Brussels and Central Asian nations, both positive and adverse facets of this alliance in

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the energy domain have been pinpointed. Special attention is paid to the relationship between the European Union and the Republic of Kazakhstan, emphasizing its role within the broader security framework of the region and the continent. The study offers practical recommendations for enhancing state energy strategies and fostering productive bilateral and multilateral energy partnerships. The results and conclusions of the presented work can be used as a foundation for the development of practical recommendations to establish and improve the energy strategies of the states, and for planning bilateral and multilateral mutually beneficial cooperation in the energy sector.

KEYWORDS: security system, strategy, infrastructure, pipeline, investment

## Introduction

Energy policy, particularly the development of strategies and plans regarding steps and actions in the sphere of energy resources and energy carriers supply, is an essential element of the modern independent development of any state claiming to be a fully fledged subject of international relations. The energy strategy of the European Union (EU) stands as a model for many nations. The EU, as one of the oldest and most effective associations of countries both continentally and globally, has established an approach that many find indicative. Their verified approach to decision-making is notable. Equally significant is their differential principle of selecting strategic partners, suppliers and buyers. This foundational policy of the Union has inspired the implementation of national plans in the energy sector for several international players. Specifically, it has influenced countries in the Central Asia (CA) region. Unpredictable transformations of the usual forms of interaction between the subjects of international law, violations of the principle of equilibrium in the arms sector, and encroachments on the independence status of some countries make the issue of preserving autonomy particularly important. The EU, which is in a phase of revising its foreign strategy and searching for new energy markets, considers CA as a promising region, seeing it as one of the future energy monopolists (Ismayil-Zada 2022). The territory, having garnered the attention of major global players, is experiencing a significant positive impact. With this renewed focus, the Republic of Kazakhstan (RK), the Republic of Uzbekistan (RU), and other central states have adeptly harnessed external cooperation opportunities. Their strategic collaboration aids in bolstering their independence and autonomy, particularly concerning energy management. This self-reliance becomes increasingly vital as the world grapples with escalating conflict situations and a looming global security crisis.

The problem is to present the current features of the EU countries' activities in the energy sector by examining the role of CA in this area of the organization's economic development through the prism of the growing crisis of the global security structure. According to Khitakhunov (2023), the EU's revision of its political strategy regarding its activities in the Central Asian region is an essential element with regard to improving the quality of the cooperation between the two sides in all areas of economic, social and other spheres of cooperation. Kaliakparova et al.

(2020) were convinced that the increased interest of European states in CA renewable energy sources will contribute to the development of infrastructure and the security system at the level of the region. Laljebaev et al. (2021) identified several barriers to the energy sector development in the region and hindered cooperation with Europe. These include legal and regulatory shortcomings, infrastructure deficits, financial issues, workforce qualifications, low public awareness, limited government support, and incomplete data availability. Moisé and Sorbello (2022) admitted that the insufficient profitability of Kazakh, Uzbek, and other national economic enterprises and the lack of control over actual investors resulted in periods of cooling in cooperation with Brussels.

Analyzing the current state of affairs in the sphere of protection of national interests and stability in the region, Metera (2022) stated that based on the analysis of individual bilateral treaties, one can judge the level of interaction between Asian states on energy security issues. Akmatalieva (2018) described China as the main guarantor of energy security in CA, which competes with European countries on an equal footing in the twenty-first century. Nurdavletova and Zharmakhanova (2020) considered cooperation in the oil sector of transnational companies representing the interests of the EU countries as promising areas of interaction. The specifics and distinctive features of the areas of the EU's energy policy with individual CA countries were considered by Dyussebekova et al. (2019), Baizakova (2013), Gubaidullina (2011) (cooperation between Brussels and Astana in the field of hydropower and renewal of infrastructure facilities), Saitov (2020) (EU-led development of renewable energy sources in RU) and Rovenskaya et al. (2018) (ways of energy import and export from Kyrgyz Republic).

The purpose of the study is to explore the specific features of the European Union activities in Central Asian countries by analyzing the structural elements and features of the European energy strategy in the region under consideration.

## 1. Materials and methods

The main methods used in the preparation of this research paper were the method of system analysis, the method of comparison as well as historical, statistical, prognostic and synthesis methods. Using the method of system analysis, the general features and specifics of the EU energy policy were considered, and the distinctive features and positive and adverse trends of the modern decision-making strategy of the EU in this area were outlined. Attention was focused on the evolution of Brussels' approach to understanding the essence and practical importance of the CA region for establishing conditions of stability and energy security on the continent. The details of the cooperation between the countries in the region and the EU on issues of energy security and stability on the continent are examined through a comparative method. Sectors of imports and exports of goods and services, and other financial transactions between the parties are analyzed in order to identify key areas of cooperation.

Important moments in the European states' process of establishing and developing their energy policies are examined using the historical method. The practical experience they have gained while executing tasks related to the provision of energy and energy resources is summarized. The fundamental internal corporate regulations – which serve as the foundation for the EU's CA policy – are emphasized. The fundamental requirements of European nations in the context of utilizing the natural resources of the region are identified through a review of quantitative and qualitative indicators of the continent's interactions with its CA partners using the statistical method.

Prospects for the future growth of bilateral and multilateral relations in the area of energy supply between the EU and CA nations are sketched using the predictive method. The general characteristics and instruments used by Brussels concerning the individual states of the region are identified through the application of the synthesis method, which is based on the available data on the common features of the EU's energy policy in CA.

A wide range of literature was used in the course of scientific research, the main emphasis of which was placed on exploring the specific areas and methods of development of the EU energy policy in the CA region. Examples of these include analytical and methodological materials (Khitakhunov 2023), scientific research (Moisé and Sorbello 2022), and statistical studies (Rodriguez et al. 2022). For a more accurate and qualitative presentation of the specifics of the European energy strategy in the CA countries, in particular, in terms of the legal framework, several documents regulating activities in this sector of the economy were selected, analyzed and used. In particular, these documents include the Memorandum of Understanding on cooperation in the field of energy between the European Union and the Republic of Kazakhstan (2006), Joint communication to the European Parliament and the Council (European Commission 2019), Resolution of the Government of the Republic of Kazakhstan No. 724 “On approval of the Concept of development of the fuel and energy complex of the Republic of Kazakhstan for 2023–2029” (2014).

## 2. Results

The Central Asian region, which mainly includes such states as RK, RU, the Republic of Turkmenistan (RT), the Republic of Tajikistan (TJ) and the Kyrgyz Republic (KR), covers an area of over four million km<sup>2</sup> (Parfinenko 2022). It is a rather vast area characterized by different natural and resource potentials and various problems and complexities regarding the sectors of economic development of the countries of the region. Since they were formerly part of the Soviet Union, most European and Central Asian experts from different fields of research consider the region to be a single, indivisible entity with a common line of development (Jafalian 2019; Kizeková 2019). However, this circumstance is not fair: although there are many common features and characteristics, RK, KR and other countries have different approaches to addressing specific

issues of strategic significance (Baizakova 2013). It primarily concerns energy policy, which is one of the key elements of the state security system (Movkebaeva and Kurganbaeva 2015).

Considering the ongoing Russian-Ukrainian war, which has established dangerous situations in the oil and gas sector, the economy and in industry, the crisis in the energy sector has led to increased attention to energy security, diversification of the energy supply, and the transformation of forms and types of energy cooperation (Figuroa-García and Gélvez-Rubio 2022). This industry is currently experiencing a serious crisis: many of the logistic transport lines have been disrupted and, as a consequence, the process of transporting energy carriers has been suspended or severely complicated. In addition, most EU countries have had to abandon old contracts and intensively search for new markets, primarily in the CA region (cooperation looks very promising, but the accelerated mode of establishing reliable supplies causes several difficulties, for example, delays due to the unsatisfactory state of the energy sector) (Sargsyan et al. 2023). The EU strives to respond to its energy needs by seeking the most favorable options for cooperation on the continent, primarily with CA countries. They, in turn, being aware of their advantage over other entities (great potential for hydropower, numerous natural resource deposits), use a favorable agenda to attract the attention of investors from Europe (e.g. emphasis on the need to develop the renewable energy sector to prevent climate change) (Metera 2022).

The development of cooperation between the EU and the CA states began immediately after the collapse of the Soviet Union and its declaration of independence (Zhanbulatova 2018; Kozhyk et al. 2017). In the period 1995–1997, under the auspices of the integration association, a large-scale study on the “Management of Interstate Oil and Gas Pipelines” was conducted, the results of which were mainly the discovery of a large oil and gas resource potential in RT and RU, which was sufficient to meet the domestic needs of European countries (Saitov 2020). However, the most effective interaction between the parties was already established at the beginning of the twenty-first century with the adoption of the “Strategy in Central Asia” (2007), in which the European states invited the CA partners to cooperate in the sphere of social and democratic development and energy interaction (Şahin 2015). In addition, to accelerate the region’s integration into the global trade system – the World Trade Organization – and to promote the improvement and modernization of the countries’ energy infrastructure for access to European markets, the EU has promoted energy projects such as the Transport Corridor Europe-Caucasus-Asia (TRACECA), Interstate Oil and Gas Transportation to Europe (INOGATE), for qualitative use of the states’ resource potential (Soutullo and Rinaldi 2022). The basic documents in the field of energy cooperation between the EU and Central Asia include the doctrine “Central Asia: State of the Art” (2002), strategies within the framework of the “Baku Initiative” (2004), the “EU Transport Strategy for Central Asia 2006–2015” (2006), the “EU and Central Asia” (2006), and the “EU and Central Asia” (2006). (2006), “The EU and Central Asia: New Opportunities for a Closer Partnership” (2019), and the regulations under the EU4Energy program (2016) and INOGATE technical assistance in the energy sector (1995) (Laljebaev et al. 2021; European Commission 2019).

The key ideas in the updated strategy were to identify the weaknesses and strengths of the countries in the region in order to develop the most optimal scenarios of interaction for the Union

(Table 1). In addition, when comparing the EU’s 2007 strategy for CA, which focused on the resource and geographical potential of the states, and the updated 2019 document, which already focused on supporting security and stability there, it is important to note that Brussels’ approach to RT, TJ and neighboring countries has been significantly transformed through dynamic changes in global terms.

TABLE 1. Prospects, strengths and weaknesses of Central Asia in EU strategies

TABELA 1. Perspektywy, mocne i słabe strony Azji Środkowej w strategiach UE

Strengths	Weaknesses	Prospects
<p>a promising geographical center in terms of energy resources; extensive transport network to Europe and Asia; gradual development of energy sector infrastructure and logistics; gradual improvement of trade, investment and foreign capital regulations in the countries of the region; active participation in international programs, forums, membership in global organizations; average level of bureaucratic procedures.</p>	<p>almost complete monopoly of China and Russia, dependence on their financial injections; underdeveloped banking system; frequent territorial conflicts and cross-border disputes over water resources; the serious consequences of climate change and environmental degradation; social inequality and high levels of intolerance on ethnic issues; high level of corruption.</p>	<p>increasing attractiveness of the region in the eyes of European investors amid the search for new energy markets; reforms designed to gradually liberalize markets; the appearance of open niches that were previously occupied by the Russian element; projects for new pipelines, transport interchanges (motorways and railways) as the shortest route from Asia to Europe; movement towards democratization of power in the countries of the region; internal desire to integrate into the world community in the face of geopolitical crisis.</p>

Source: compiled by the authors based on Rovenskaya et al. (2018).

The EU is taking a major step in its engagement with CA countries through the launch of the Sustainable Energy Connectivity in Central Asia (SECCA) project. SECCA is aligned with the European Green Deal and the new EU Strategy for the region. Its main objective is to bolster national policies in CA countries to promote sustainable economic development, encourage investment, harness renewable energy resources, and improve energy efficiency in the region (European Union’s new... 2022).

## 2.1. Specific features of the EU energy policy in Central Asian countries

The energy sector is one of the main vectors of cooperation between the EU and the CA countries (Mantel 2015). Brussels is actively increasing the level and quality of cooperation with the states of the region, trying to consider the specifics of each of them as much as possible. The strengthening of cooperation is primarily due to the activities of European energy companies. The region accounts for more than 11% of all oil production (RK is the leader in crude oil

exports) and 15% of gas production (RU and RT are the main players in natural gas production). This factor has become crucial for companies from the USA, China, India, Russia and other countries (for example, almost 100 million tonnes of oil were produced by European companies from RK) (Nurdavletova and Zharmakhanova 2020). Among the most active energy companies in the region are European ENI (Italy), British Petroleum and Shell (UK), Total (France), and the national corporations of RK, RU, TJ, RT and KR (Dyussebekova et al. 2019). The monitoring and control of the work of the energy companies of European countries in CA is to some extent specific and sectoral. Thus, the main document fixing the rules and standards of relations in the field of energy is the Energy Charter (1991). In addition, bi- and multilateral energy interaction is regulated by the provisions of the national legislations of the states of the region and EU member states (European Commission 2019).

## 2.2. The Republic of Kazakhstan

The EU – the largest trading partner of RK (the Union’s share has been over 40%, since 2020, there is a constant growth of trade turnover, Table 2), oil and gas exports account for more than 80% of the total amount (Saitov 2020). The sphere of oil production and oil refining development of coal and uranium deposits is the main source of the replenishment of the budget of RK. The supplies of raw materials to the EU countries contribute to the financial growth of RK (Kembayev 2016). According to a group of researchers, Kaliakparova et al. (2020), Gubaidullina (2011), RK is the third largest supplier of energy carriers to the EU. The regulatory and legal framework of relations between Astana and Brussels is quite complete and well-developed. The parties emphasize the significance of enhanced and effective interaction in the energy sector to guarantee security and stability – both within the framework of bilateral cooperation and at the international level in general (Aidarkhanova 2020).

The most complete and clear common purposes and interests in this area were outlined in the Memorandum of understanding on cooperation in the field of energy between the EU and RK (Memorandum of understanding... 2006), EU-CA relations in the energy sector with a special focus on RK (Mantel 2015), in Resolution of the Government of the Republic of Kazakhstan No. 724 “On approval of the Concept of development of the fuel and energy complex of the Republic of Kazakhstan for 2023–2029” (2014), in the EU4Energy (2016) and INOGATE (1995) programm, and several agreements and resolutions on nuclear fusion, green energy and, hydro-electric facilities, according to which, the parties commit to cooperate in the following areas (Akhmetkali 2023):

1. Investments in strengthening energy security.
2. Modernization of energy infrastructure.
3. Increasing the level of bi- and multilateral cooperation in the energy sector.
4. Combating environmental pollution, preserving ecological balance.
5. Transition to “clean” energy sources

TABLE 2. Export/import growth by commodity between the EU and Kazakhstan in the period 2021–2022

TABELA 2. Wzrost eksportu/importu według towarów między UE a Kazachstanem w latach 2021–2022

Category of trade relations	Product	Year	
		2021	2022
Export to the EU	Oil	USD 13 billion	USD 19.2 billion (47.5%)*
	Coal	USD 2.8 million	USD 259.2 million (93.7 times)
	Ferrous alloys	USD 209.2 million	USD 433.2 million (2.1 times)
	Zinc	0	USD 113.8 million (2586 times)
	Oil products	USD 462.5 million	USD 573.5 million (24%)
	Uranium	USD 82.3 million	USD 146.5 million (77.9%)
	Flax	USD 80.4 million	USD 144.5 million (79.8%)
Import to RK	Medicinal products	USD 417.5 million	USD 524.5 million (25.6%)
	Turbojet and turboprop engines, gas turbines	USD 5.5 million	USD 65.4 million (11.8 times)
	Tractors and truck tractors	USD 46.6 million	USD 88.7 million (90.5%)
	Passenger cars	USD 36.4 million	USD 72.4 million (98.8%)
	Vaccines, blood sera, blood	USD 126.7 million	USD 157.9 million (24.6%)
	Air or vacuum pumps, compressors and fans	USD 80.7 million	USD 109.9 million (36.3%)
	Computing machines	USD 59.1 million	USD 88 million (48.9%)

\* Growth compared to the same period last year.

Source: compiled by the authors based on Soutullo and Rinaldi (2022), The European Union and Kazakhstan (2021).

In addition, the EU and RK cooperate within the framework of the International Atomic Energy Agency, the Energy Charter, and the EU4Energy program (European Commission 2019). In addition, the Republic is the most favorable partner for several companies from European countries: ENI (Italian company – operator of the Karachagnak and Kashagan fields), Total (French oil company – co-owner of the Dunga field) (Dyussebekova et al. 2019).

### 2.3. The Republic of Uzbekistan

The EU-RU relations are based on the principles outlined in the Memorandum of Understanding on Energy Cooperation (2011) (Dutta 2019). However, the slow development of infrastructure construction and huge domestic demand for energy complicates the performance of joint tasks, especially on the part of Tashkent, which establishes serious barriers to close cooperation between the parties. In 2018, the Uzbekistan Reconstruction and Development Fund signed a UK-RU Memorandum of Understanding for financial incentives for energy and oil and gas projects (Moisé and Sorbello 2022). A contract for the construction of a solar power plant

in Samarkand was signed in 2020, for which the UK has committed more than USD 1 billion (Soutullo and Rinaldi 2022). In addition, the EU and RU cooperate under the EU4Energy technology and energy program, which is designed to help countries in the region fully exploit their energy potential and ensure energy security (Gubaidullina 2011).

## 2.4. The Republic of Turkmenistan

The EU and RT cooperate in the fields of energy efficiency production, transport and logistics and energy, based on the terms of the Memorandum of Understanding on Strengthening Mutual Cooperation in the Energy Sector (2008) (Mehta et al. 2021). Particularly close contacts were established after the full-scale military invasion of Ukraine in February 2022: the imposition of sanctions and the restriction of energy supplies from Russia prompted the EU to strengthen contacts with Ashgabat, especially on the construction of the underwater Trans-Caspian pipeline starting from the coastal areas of the country and connecting the Republic of Azerbaijan to the Tengiz field in RK (Laljebaev et al. 2021). Energy cooperation between Brussels and Ashgabat through programs and projects under the auspices of the EU4Energy and INOGATE initiatives has been particularly effective in recent years.

## 2.5. The Kyrgyz Republic

The main areas of cooperation between the EU and KR (e.g., oil and gas exploration and production) were outlined in the Partnership and Cooperation Agreement (1999), in particular economic, political and energy projects. Cooperation with Tajikistan is implemented through the Partnership and Cooperation Agreement (2009) and the EU's New Central Asia Strategy. The basic and most significant points of cooperation are the management and utilization of hydrocarbon resources for the exploration and expansion of the Union's activities in the country (facilitated through the INOGATE and EU4Energy energy projects and several bilateral agreements in the field of logistics and energy), as these areas are among the weakest vectors of cooperation between the parties due to the weakness of the EU's cooperation with TJ.

## 2.6. The Republic of Tajikistan

Cooperation between the EU and TJ is based on the Partnership and Cooperation Agreement (PCA), which has been in force since 2010. The EU and TJ began negotiations on an Enhanced Partnership and Cooperation Agreement (EPCA) in 2023 (Hanova 2022). The Cooperation Co-

uncil between TJ and the EU is a main bilateral mechanism that focuses on key areas such as trade, investment, and political cooperation. In June 2023, the EU encouraged TJ to improve the protection of human rights and fundamental freedoms, emphasizing the importance of freedom of expression. The EU and TJ also discussed development cooperation in April 2023 (Birkeland et al. 2021). The EPCA will provide a platform for improved political cooperation, trade and investment between the EU and TJ, incentivizing and supporting these areas.

## 2.7. Factors driving EU engagement in Central Asia's energy sector

Cooperation is based on the Agreement on Partnership and Cooperation between the Parties (2004) whose main vectors are, *inter alia*, investment, strengthening political dialogue, trade, economic development and, primarily, energy cooperation. The new EU strategies of 2007 and 2019 renew the ties with the republics, in particular, large-scale energy projects and programs (e.g. the construction of new energy infrastructure) are planned under the auspices of the EU-4Energy and INOGATE initiatives (Solikhodjaeva 2014). However, the weakness of the cooperation remains the insufficiently strong aspirations of the local authorities for close cooperation with representatives of European countries.

Notably, the states in the Caspian basin (primarily RK, RT and RU) fall into the zone of increased attention of the EU. According to preliminary expert estimates, oil reserves are about 48 billion barrels and gas reserves are almost 300 trillion cubic feet (Saitov 2020). Such volumes may well cover all the priority demands of European countries in the sphere of energy supply. The EU has already started to act in this area: the option of connecting local sources of natural gas to the Southern Gas Transmission Corridor (Nabucco) for Southeast and Central Europe for the purpose of diversifying energy sources has been considered (Eshchanov et al. 2019; Amidu et al. 2023). The planned length of the corridor was about 3,500 km, and the investment amount was more than USD 40 billion. The system was to consist of interconnected pipelines (South Caucasus Pipeline, Trans-Anatolian Natural Gas Pipeline (TANAP), Trans Adriatic Pipeline (TAP)) running from the Caspian Sea basin through Turkey to Europe (Mehta et al. 2021). However, due to financial disagreements, violation of some clauses of the EU legislation, and an increasing dependence upon fossil fuels, it was decided to close the Nabucco project; instead, it was decided to concentrate all efforts on the Trans Adriatic Pipeline to be commissioned at the end of 2020 (Radovanović et al. 2021; Trokhaniak and Gorobets 2023). Summarizing the specificities of the political, economic and resource aspects in the CA region, especially regarding energy and energy production, the following key factors can be identified as stimulating Brussels' increased activity in RK, RU and neighboring countries. In particular:

1. The constant presence of the Russian factor in the region. Until recently, Russia has been a key partner in the region, affecting trade and economic, financial, cultural, social and political aspects of state development in CA countries. Moscow's monopoly in the region's energy market was unequivocal. However, the construction of the Trans-Caspian pipeline through TJ and RK

to Turkey and Italy, bypassing Russia, should significantly weaken the position of this country in the region (Gussarova and Andžāns 2019).

2. The rising China factors. Through the “One Belt, One Road” initiative, Beijing is gradually becoming one of the main economic partners of CA countries. Of particular significance is the fact that energy agreements have been signed at various times with RK and RU for joint projects in oil and gas production (Akmatalieva 2018; Nurdavletova and Zharmakhanova 2020). On May 19, 2023 Chinese President Xi presented an ambitious development plan for CA, according to which Beijing expressed its willingness to coordinate development strategies with RK, KR and other states and to promote the modernization of sectors such as law enforcement, security and defense (Hayley 2023). Thus, China is at the forefront of the struggle for political influence in the region, where it is opposed by the EU.

3. The widespread general instability (human rights violations, environmental and economic problems) as a reason for the EU’s active involvement in the processes of solving the problems of the region (Boonstra 2019). The combination of several factors (the Russian-Ukrainian war and, as a consequence, the redistribution of spheres of influence in different areas of production) stimulates Brussels to get involved in the actions occurring on the continent to consolidate its influence there (Martynova and Rogacheva 2022).

The results of some studies and the conclusions of international experts (Moisé and Sorbello 2022; Metera 2022), suggest that EU-CA cooperation will strengthen shortly. Events such as the consequences of the COVID-19 coronavirus pandemic, the full-scale invasion of Ukraine, the general slowdown in economic development, and the weakening of the positions of the main competitor countries have stimulated Brussels to take a new approach to solving problems in different sectors (Khitakhunov 2023). The development and implementation of updated cooperation strategies, primarily in the energy sector, indicates the increased interest of the Union’s member states in their security and independence. The CA region in this context looks very promising due to the large amount of oil, gas and other energy resources that the EU needs (Alameri and Alkaabi 2020). It is foreseen that the EU will strengthen its engagement in the region, trying to maximize its ability to accommodate national specifics and local specificities. By analyzing the effectiveness of EU-CA engagement, particularly in terms of the national policies of the states in the region, general practical recommendations are offered for the different spheres of government involved in energy policy decision-making to improve the level of decision-making:

1. The sphere of regulation (legislative authorities – national and regional). Authorized representatives should focus on the development and actualization of a monitoring and control mechanism for the energy sector – both at the level of individual states and in a regional context. Reforming the public, social and economic spheres towards liberalization and democratization. Empowering regional authorities to seek, organize and implement joint projects in the energy sector.

2. Sphere of public funding (Ministries of Economy, financial institutions, national banking institutions). Grant and scholarship support for energy sector employees (as a motivational incentive, and as career development assistance) will contribute to the area’s rapid development.

3. Sphere of education (Ministries of Education, Science, higher education institutions, postgraduate education institutes). The introduction of more educational programs on energy management, energy efficiency and other related specialities. The organization of master classes, training and round tables for energy sector employees to raise their awareness of international competitions and projects on energy saving and energy efficiency.

4. Sphere of international relations (Ministries of Foreign Affairs, foreign representations). The dissemination of information on the successful development of the energy sector of the countries of the region by reporting on the satisfaction of citizens' requests in a particular sector. Organization and implementation of joint scientific activities (exchange of experience, mutual visits, technological inspections).

5. Popularization of the "correct" image of the states of the region (representatives of all involved bodies). Work of "positive" propaganda of RK and RU (wide news coverage of the region's achievements in the sphere of provision of resources, primarily energy, needs of citizens) and other states using active advertising and information campaigns on a comprehensive renovation of all existing systems and structures to establish a comfortable environment to attract potential investors, primarily in the energy sector. And then: "innovatization" and "digitalization" of the state structure, and all spheres of functioning of the economy and development of society (the introduction of new tools, the minimization of human intervention, computerization and the mass distribution of the Internet will lead to qualitative changes and the improvement of foreign policy strategies of CA countries, primarily in the energy sector).

### 3. Discussion

In examining the EU's energy policy in CA and tracing the development of Brussels' approaches and strategies for cooperation with regional countries, it is evident that this subject has been thoroughly studied and debated. Assessing the effectiveness of national approaches in light of their cooperative endeavors, one can reasonably conclude that there has been substantial exploration and discussion surrounding this issue. Thus, a significant contribution to the research of this problem has been made by European specialists from countries such as Spain, Italy, and Finland. The results of their scientific research have enriched the theoretical and practical base of the issue examined in terms of considering the positive and negative experience of the EU in the context of changing the main vector of attention in the CA region. Scientists from RU, KR and neighboring states have most fully analyzed the issues of security and stability through strengthening contacts with Brussels. Their works emphasised energy security, energy efficiency, and water security as key factors in determining independence in the modern world, considering the real conditions at a particular moment in time. Serious results of the scientific work of specialists from the energy, infrastructure, construction, finance and investment spheres were the options for strengthening interaction between parties, in particu-

lar, establishing close business contacts to diversify energy sources (EU) and finding ways to enter the world energy markets (CA).

In this work, it has been outlined that the European part of the continent has been dominated by industrialization and urban development in recent centuries, while in the Asian part, huge deposits of natural resources such as gas, oil and groundwater have been accumulated and underutilized (Kalinichenko et al. 2016). This conclusion continues the assertion made by Mehta et al. (2021) regarding the prospects of utilizing the resource potential of the CA states. The authors explained that despite abundant domestic energy resources, energy supply in the region is very uneven – half of the population lives in rural areas and in regions where the need to use these resources is low, thus energy reserves remain at a consistently high level, capable of meeting the needs of both internal and external consumers (Rubino et al. 2017).

The current positive trends in the development of relations between Brussels and the CA countries in the political, economic, social and energy security sectors will likely continue and strengthen in the future, albeit at different intensities for the individual countries of the region. This statement was used in this research as a basic factor indicating the growing mutual interest of the parties in collaborative cooperation. The research results of a group of scientists, including Gussarova and Andžāns (2019), came to similar conclusions regarding the future transformation of CA in the context of stability and security, citing the events of military conflicts and armed clashes in the territory of the countries of the region, which threatened their security and required international support and accompaniment. The EU's engagement on these issues has established a solid foundation for cooperation with the region on other relevant issues.

The activities of transnational and international energy corporations in RK, RU and other states are a fundamental force that promotes energy supply and transportation projects in the region, described in this research in the context of analyzing the cooperation of European states with CA partners (Afgan et al. 2023). The conclusions of Moise and Sorbello (2022) have a similar statement: according to scientists, European enterprises that specialize, for example, in the construction of pipelines and power plants in CA, along with the development of local resource sources, protect their mercantile interests and satisfy the demands of their state. However, experts were convinced that, through planned actions and systematic psychological influence, representatives of transnational corporations would shortly be able to seriously influence the domestic politics of various countries in the region.

A well-designed cooperation agreement that considers all the specific features of the development and functioning of the various systems of all the signatories to this document plays a crucial role in a clear, smooth and mutually beneficial cooperation between the parties. Such a conclusion was drawn in this research, based on the analysis and summarization of the information contained in the texts of bilateral and multilateral cooperation agreements between the EU, on the one hand, and the CA states, on the other. Metera (2022) confirmed the idea that legally regulated cooperation between different countries based on treaties is an effective way to develop and strengthen strategic cooperation. However, the author argued that agreements in such areas as energy and security tend to be frequently violated and defaulted, particularly by less developed states and regions.

The results of Astana's cooperation with Brussels are the most successful among all the states in CA. Since its independence in 1991, the RK has pursued a course of rapprochement with the EU, liberalization of legislation, and democratization of the political system of the state. This aspect, which confirms the conclusions of Dyussebekova et al. (2019), was voiced in the presented work. Experts argued that the energy sector is the most successful sphere of production in the country and the most promising area of cooperation with the EU. However, the scientists were sure that such problems as dynamic climate change and the increasing frequency of conflicts over access to water resources would significantly affect the future intentions of Brussels, in particular, the experts predicted a decrease in the level of its aspirations for cooperation with CA countries.

In summary, after reviewing the literature on EU-CA energy security and cooperation, it is evident that positive trends are reshaping the way the EU interacts with CA nations. These changes are influenced by growing concerns about the independence and autonomy of international actors on the continent amidst various conflict risks. Against the background of changes in the EU's approaches to the essence of understanding the role and place of the region as an independent unit and its states – independent players in the international arena – the existing forms and scenarios of the Union's interaction with the CA countries are being transformed. Thus, the growing influence of neighboring states, mainly China, on the political and economic situation in TJ, KR and other states establishes real competition in the energy market in the context of EU energy security. European and CA experts suggest that cooperation in the energy sector requires collaboration between the international community, regional organizations and national bodies from both regions to ensure security and prosperity for all involved parties.

## Conclusions

In the process of research on the energy policy of the European Union in Central Asia, the specific features of bi- and multilateral cooperation of Brussels with the region and other states, in particular in the field of energy efficiency, energy supply and energy security, have been explored. The main trends and prospects of cooperation between the parties have been analyzed. It was found that different approaches, opinions and assessments of the role and prospects of the CA states in the strategic programs and plans of European countries varied depending on historical circumstances and conditions; as early as the turn of the twentieth and twenty-first centuries, Brussels considered CA as a single entity in the international arena, which still had close ties with the former Soviet republics. China's increasing influence in CA states, diminishing ties with Russia in countries like RK and KR, and ongoing conflicts over resources and ethnic and religious factors are key concerns in the region where the EU could play a beneficial role.

The CA region's primary advantage lies in its abundant reserves of natural resources, such as oil, gas and uranium. These resources play a pivotal role in the export-import policies of coun-

tries like RK, particularly in their trade relations with the EU. To elevate cooperation between the EU and CA countries in the energy sector, it is essential to enhance regional legislation, establish joint scientific and educational initiatives with European partners, and foster the exchange of practical experience and valuable skills in energy security.

This work presents practical recommendations to enhance cooperation between the EU and CA countries in the energy sector. It analyses and assesses the quality of both bilateral and multilateral cooperation against the backdrop of changing security dynamics in the region. To expand the knowledge base and provide more practical recommendations to various authorities, including regional and international bodies and for further research on this topic, it is important to continue analyzing the EU's energy policy in relation to plans for infrastructure development in CA states.

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## Polityka energetyczna UE w Azji Środkowej

### Streszczenie

Wystarczające krajowe zasoby kopalne i niezależny system zaopatrzenia w wodę są niezbędnymi elementami struktury bezpieczeństwa każdego państwa. Niezależność energetyczna, jako czynnik determinujący samowystarczalność, jest obecnie podstawową okolicznością dla krajów lub regionów pragnących rozwijać się niezależnie i swobodnie. Celem niniejszego artykułu jest identyfikacja specyfiki europejskiej strategii energetycznej w regionie Azji Centralnej poprzez uwzględnienie podstawowych obszarów współpracy pomiędzy stronami w tym sektorze gospodarki. Niniejsza praca badawcza została przygotowana głównie przy użyciu następujących metod: historycznej, statystycznej, prognostycznej, syntezy, porównania i analizy systemowej. Badanie zagłębia się w zawiłą dynamikę działań polityki zagranicznej członków Unii Europejskiej w zakresie surowców energetycznych, szczególnie w kontekście historycznym. Analizując współpracę między Brukselą a krajami Azji Środkowej, wskazano zarówno pozytywne, jak i negatywne aspekty tego sojuszu w dziedzinie energii. Szczególną uwagę poświęcono relacjom między Unią a Republiką Kazachstanu, podkreślając ich rolę w szerszych ramach bezpieczeństwa regionu i kontynentu. Studium oferuje praktyczne zalecenia dotyczące wzmocnienia państwowych strategii energetycznych i wspierania produktywnych dwustronnych i wielostronnych partnerstw energetycznych. Wyniki i wnioski z przedstawionej pracy mogą być wykorzystane jako podstawa do opracowania praktycznych zaleceń dotyczących ustanowienia i ulepszenia strategii energetycznych państw oraz planowania dwustronnej i wielostronnej wzajemnie korzystnej współpracy w sektorze energetycznym.

SŁOWA KLUCZOWE: system bezpieczeństwa, strategia, infrastruktura, rurociąg, inwestycje