

RESEARCH ARTICLE

Energy security as a research area of international security

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Abstract

The research objective of the study is to analyse the essence and specificity of energy security in the light of research on international security. Thus, various theoretical approaches, useful in the analysis of energy security issues, were taken into account. The analysis allows us to conclude that energy security issues take into account long-term development trends as well as unpredictable events related to the functioning of energy market and energy technology. Thus, unexpected, sudden phenomena resulting from the dynamics of the international environment gain in importance. The dilemma related to non-linear thinking often ignores a variety of solutions that, taken together, can cause a radical turn in the energy security concept and its evolution.

Keywords

energy security, securitization, international security, energy market, theoretical approaches

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Introduction

The main research objective of the presented study is to analyze, in accordance with selected theoretical and methodological assumptions, the main challenges of international energy security understanding. The presented approach to the research problem shows an evolution in understanding of energy security, both in terms of the actors and the objects. Capturing the specificity of energy security is very difficult due to the complexity of the global raw material market. The variety of definitions makes it difficult to define clear boundaries of the meaning of energy security both in theoretical and practical dimensions. The epistemological approach has been applied for this study, then energy security is interpreted as a field of international security research, and the essence and threats to energy security have been presented. Serious threats to energy security include technological and economic barriers in the mining industry and the slow but inevitable process of resource depletion. As global demand for hydrocarbons rises, raw materials producers are forced to invest more in the exploration of new deposits while consumers seek to diversify supplies. The analysis attempts to define the specific functioning of the international energy market actors. It also presents the possibilities of interpreting energy security in terms of selected theoretical approaches and definitions found in the literature.

In the case of energy security, we are precisely dealing with sovereign and non-sovereign actors. The possibilities of extraction and transport of raw materials affect not only the economy of states but also economic relations on a global scale since actors on the energy market are not only states but also numerous international corporations involved in the production, and distribution of hydrocarbons (upstream and downstream).¹

Energy security is based not only on objective economic premises related to free market principles but is also determined by political and geostrategic issues. The oil crisis of the 1970s began a new era when the energy market became an instrument of political competition between states. It showed that a lack of or uncertainty of availability of supplies can threaten the entire world economy. Since then, a serious debate on the energy and resource security of states has begun.²

¹ See R. Ulatowski, "Rola Narodowych Koncernów Naftowych we współczesnym reżimie rynku ropy naftowej," in *Bezpieczeństwo energetyczne we współczesnych stosunkach międzynarodowych. Wyzwania, zagrożenia, perspektywy* [Energy security in the contemporary international relations. Challenges, threats, perspectives], ed. M. Pietraś and J. Misiągiewicz (Lublin: Wydawnictwo UMCS, 2017), 67–86; R. Ulatowski, "OPEC+ as a New Governor In Global Energy Governance," *UNISCI Journal*, no. 53 (May, 2020): 242–263.

² K. Pronińska, "Bezpieczeństwo energetyczne w stosunkach międzynarodowych – aspekty strategiczne," in *Stosunki międzynarodowe w XXI wieku. Księga jubileuszowa z okazji 30-lecia Instytutu Stosunków Międzynarodowych Uniwersytetu Warszawskiego*, ed. E. Haliżak, R. Kuźniar, G. Michałowska, S. Parzymies, J. Symonides and R. Zięba (Warszawa: Wydawnictwo Naukowe Scholar, 2006).

The initiator of the Washington conference which adopted the International Energy Program (IEP) - the founding charter of the International Energy Agency (IEA), Henry Kissinger pointed out “the necessity of cooperation of the importing states to ensure their energy security because they have a common problem that can only be solved through cooperation”.³ He stated that “control oil and control all continents”.⁴ Michael Collon went even further, saying that “If you want to lead the world, you have to control oil, all oil. Wherever it is”.⁵ According to Daniel Yergin, energy security means the availability of sufficient supplies of resources at an affordable price.⁶ He stated that “energy security demands constant commitment and attention – both today and in the future”.⁷ At the same time, it should be pointed out, that most definitions of energy security are created while considering the viewpoint of energy resource consumers who are largely exposed to various disturbances in the energy market. As Michael T. Klare said, energy security is a guaranteed supply of energy resources that ensures the basic needs of a state are met, even in crisis or international conflict.⁸

The solution to the research problem was based on the selection of appropriate theoretical approaches. We concentrated on securitization theory in the analysis of uncertainty on the energy market. In line with the realistic approach, we are dealing with the use of energy security as a foreign policy tool used by the state. According to the idealistic theory, we are dealing with processes of interdependence and institutionalization in this dimension. The network theory explains energy policy as the multi-level governance. On the other hand, the geopolitical approach to energy security assumes the importance of access to areas rich in energy resources, which may lead to conflicts between states.

However, in the face of numerous and unexpected changes on the international energy market, risk theory seems to be interesting theoretical approach as the conceptual basis of security. The key question is therefore how to study this area, and which theoretical assumptions are most relevant in this context. Political science theorists have not developed appropriate research apparatus that could contribute to a deep exploration and explanation of the role and significance of energy policy in the area of international security.

³ H. Kissinger, *Years of upheaval* (Boston: Harper Collins Publishers, 1982), 906.

⁴ M.M. Neag, E.E. Halmaghi and P. Cucuiet, “Contributions on the determination of the relationship among globalization, sustainable development and energy security,” *Scientific Bulletin* 22, no. 1 (2017): 24–29.

⁵ Neag, Halmaghi and Cucuiet, “Contributions on the determination,” 24–29.

⁶ D. Yergin, “Ensuring Energy Security,” *Foreign Affairs* 85, no. 2 (2006): 71.

⁷ D. Yergin, “Energy security and markets,” in *Energy and Security: Towards a new foreign policy strategy*, ed. J.H. Kalicki and D.L. Goldwyn (Washington D.C: Woodrow Wilson Center Press, 2005), 52.

⁸ M. Klare, “Energy Security,” in *Security Studies: an Introduction*, ed. P.D. Williams (London, New York: Routledge, 2008), 483–496.

The specificity of the concept of energy security and the multiplicity of research approaches describing it, justifies the conclusion that energy policy as an explanatory space is very broad. Each research approach seeks to demonstrate the differences in the perception of energy policy and identify its most important designations.⁹

In the analysis of energy security, it is difficult to separate the theory of the concept from its practice. Paradoxically, the widespread discourse on this subject, on the one hand, links the concept of energy with security, and on the other hand, it hinders the process of energy security conceptualizing.¹⁰ It is often questioned whether the energy issue should be analysed in terms of security. Two determinants shaping the relationship between energy and security can be distinguished. First, energy is treated as a basic category that determines the existence and development of societies. Second, the concept of energy security is the result of theoretical debates on a broader understanding of security in contemporary international relations.¹¹

The study verified the research hypothesis that the evolution of understanding the energy security concept and the prospect of its development largely results from the relations on the global energy market. Thus, securitization of energy security was conditioned by the specificity of the security environment. The methodological framework of the conducted research included research methods appropriate to the science of international relations. The factor method was useful in identifying the determinants of energy security definitions in the literature. The comparative method made it possible to capture the specificity of research approaches related to energy security.

Securitization of the energy security

Currently, security is becoming multidimensional, having regard to, among other things, the political, cultural and economic conditions of activities of both states and non-sovereign actors.¹² The concept of the so-called The Copenhagen School (Copenhagen Peace Research Institute – COPRI) emphasises the need to expand the catalogue of threats to security in international relations.¹³ It seems to be particularly

⁹ Kissinger, *Years of upheaval*, 181.

¹⁰ F. Ciuta, “Conceptual notes on energy security: Total Or banal security?,” *Security Dialogue* 41, no. 2 (2010): 124.

¹¹ A. Correlje and C. van der Linde, “Energy Supply Security and Geopolitics: A European Perspective,” *Energy Policy* no. 34 (2006): 532–534.

¹² B. Buzan, O. Wæver and J. de Wilde, *Security: a new framework for analysis* (Boulder: Lynne Rienner, 1998), 195.

¹³ See J. Misiągiewicz, “Teoria sekurytyzacji w analizie energetycznego wymiaru bezpieczeństwa międzynarodowego,” in *Normy, wartości i instytucje we współczesnych stosunkach międzynarodowych*, ed. Ł. Fijałkowski and E. Stadtmüller (Warszawa: Rambler, 2015).

significant in studies on the energy dimension of security. The securitization theory proposed by Barry Buzan is noteworthy in this context. It creates a vision of security that addresses both military and non-military threats. In this concept, “security involves the survival” of a given actor.¹⁴ Threats may emerge on many levels of the actor’s functioning, significantly limiting its development opportunities. The process of securitization is about “defining activity as belonging to the security sphere. The state has the authority to grant this activity special status”.¹⁵ An issue becomes securitised when political or social leaders start talking about it as an existential threat to a particular social group.¹⁶ “Security is the quality that an actor instils into an issue through securitization, which involves presenting a given issue in the political arena in a specific way and thus obtaining approval for the application of exceptional protective measures”.¹⁷ To quote B. Buzan, “it transfers a given issue from the realm of normal politics to the realm of panic politics”.¹⁸ In this context, “an existential threat requires special methods and justifies actions outside the bounds of normal political procedure”.¹⁹ Securitization can be seen as an extreme form of politicization.

On the eve of World War I, Winston Churchill made a strategic decision: he swapped coal for oil as the main resource to power the British navy, making it faster than the German units. Thus, the Royal Navy ceased to be dependent on coal from Wales, and instead became dependent on less stable oil supply from Persia. Since then, energy security became a matter of national strategy.²⁰ Winston Churchill concluded that “the security and certainty of oil supply lies in diversity and diversity alone”.²¹ It may be claimed that he initiated the securitization of energy access issues.

The concept of national security evolved significantly during the Cold War. As the likelihood of a conflict breaking out on a global scale has decreased, the importance of the political and military dimension of security has also diminished.²² At the same time, more and more often two other dimensions of security were taken into account: economic and ecological security. Both of these security sectors

¹⁴ B. Buzan, “Rethinking Security after the Cold War,” *Cooperation and Conflict* 32, no. 1 (1997): 13.

¹⁵ See J. Czaputowicz, “Bezpieczeństwo w teoriach stosunków międzynarodowych,” in *Bezpieczeństwo międzynarodowe. Teoria i praktyka*, ed. K. Żukrowska and M. Grącik (Warszawa: SGH, 2006).

¹⁶ Buzan, “Rethinking Security,” 14.

¹⁷ See Czaputowicz, “Bezpieczeństwo w teoriach.”

¹⁸ Buzan, “Rethinking Security,” 14.

¹⁹ Buzan, 14.

²⁰ Yergin, “Ensuring Energy,” 69.

²¹ Yergin, “Energy security,” 52.

²² Buzan, “Rethinking Security,” 6.

correspond with the concept of energy security. Access to energy resources determines the development of a national economy, while their exploitation causes the release of greenhouse gases emission into the atmosphere, which has a fundamental impact on the condition of the natural environment. The increasing importance of economic security (especially in terms of energy) in international relations was related to the crisis in the United States as a result of the lack of oil supply liquidity and substantial dependence on oil imports in the 1970s. The dependence on oil supplies and the oil crisis related to the embargo on this raw material imposed by the Arab states on the West, can be considered a turning point in the conceptualization of the term energy security. At that time, it started to appear in national security strategies and literature. It can therefore be concluded that energy market issues have been securitized. Securitization, as regards energy, means “inclusion of energy carriers in the analysis of security problems, their threats, and actions to ensure security”.²³

To quote Marek Pietraś, “for the autonomy of securitization of energy problems and the emergence of the concept of »energy security«, the place of energy in contemporary social life, especially in economy but also in politics, is of key importance, followed by the securitization process and its stages. The result is an energy security category, understood in many ways, which reflects the complexity of the analysed phenomenon”.²⁴ The analysis of the concept of energy security challenges both the traditional understanding of security and the securitization theory.

The combination of security and energy is historically rooted. The concept of energy security actually emerged from the experiences of oil-importing states. Of course, the ‘oil shock’ of the 1970s was a turning point here. However, a similar crisis occurred much earlier, for example in the USSR during World War II or in China in the 1960s. Crises related to resource scarcity were connected with population growth.²⁵ The concept of ‘energy security’ forms the basis of thinking about the functioning of social life. Securitization points to mechanisms and phenomena that are important for society but become threatened at a given time. They are referred to in literature as “the breakdown of living conditions” associated with climate change, depletion of oil resources, or loss of biodiversity.²⁶ In each of these cases, we are dealing with the impact of raw materials production and consumption. Threats

²³ M. Pietraś, “Autonomiczność bezpieczeństwa energetycznego w stosunkach międzynarodowych,” in *Bezpieczeństwo energetyczne we współczesnych stosunkach międzynarodowych. Wyzwania, zagrożenia, perspektywy* [Energy security in the contemporary international relations. Challenges, threats, perspectives], ed. M. Pietraś and J. Misiągiewicz (Lublin: Wydawnictwo UMCS, 2017), 23–40.

²⁴ Pietraś, “Autonomiczność bezpieczeństwa,” 23–40.

²⁵ G. Bridge, “Energy (in)security: world-making in an age of scarcity,” *The Geographical Journal* 181, no. 4 (2015): 328–339.

²⁶ M. Mason and M. Zeitoun, “Questioning environmental security,” *Geographical Journal*, no. 179 (2013): 294–297.

and risks cause significant changes to current norms, such as those related to social mobility, thermal comfort or foreign policy. Decision makers often perceive threats to energy security as “a constraint on the political space”.²⁷ Energy security therefore has enormous social consequences, as energy is essential in everyday life.

Social implications of energy security affect, how it is defined, and what it means in contemporary political, and scientific discourse. It is therefore a phenomenon that is difficult to specify in the context of other political priorities. It shows that energy security is a very flexible concept.²⁸ The lack of a specific definition creates many possible interpretations, which can be treated as an advantage of this broad research field.

The variety and breadth of understanding of energy security determines the specificity of combining the two parts of this concept. First, the contemporary term ‘energy’ comes from the nineteenth century. It was understood as the dematerialisation of energy from material forms such as wind, water, biomass, and fossil fuels. This approach to energy is also reflected in the politics. In turn, in the United Nations (UN) document ‘Decade of Sustainable Energy for All’ (2014–2024), energy is treated as the ‘golden thread’ that connects legal, economic, and sustainable development issues.²⁹ On the other hand, ensuring low-emission and sufficient access to energy is a ‘golden grail’ of the energy policy of many states.³⁰ Secondly, security is also an abstract concept, that takes into consideration what, and whom it is to concern, and at what cost. The combination of energy and security further complicates the situation and the specific ‘plasticity’ of the research area.

The following features of the concept ‘energy security’ can be distinguished: no specification, a wide range of actions, and technologies – from wind farms to nuclear power plants. It turns out that energy securitization is a system of actions and practices, and not just a ‘language’ of security. Securitization depends on practical knowledge; it is the logic of management of the security environment. The different objectives of the securitization process are for example energy transition, access to energy, and energy poverty.³¹

Various factors influenced the rebirth of energy security issues in the contemporary world. First, in the context of state policy, securitization of the energy sector is part of energy market liberalization. According to the Wicks Report in

²⁷ A. Loschel and D. Rubbelke, “Indicators of energy security in industrialized countries,” *Energy Policy*, no. 38 (2010): 1665–1671.

²⁸ N. Hildyard, L. Lohmann and S. Sexton, *Energy security for whom?* (Newton: The Corner House, 2012), 328–339.

²⁹ Decade of Sustainable Energy for All, <https://www.un.org/millenniumgoals/pdf/SEFA.pdf>.

³⁰ Hildyard, Lohmann and Sexton, *Energy security*, 328–339.

³¹ M. Wicks, *Energy security: a national challenge In a changing World* (London: Department of Energy and Climate Change, 2009).

Great Britain, “the age of market innocence is over”.³² The state began to decide on the production, transport, and consumption of energy. The application of political language to energy security is often connected with a process of institutionalization as a component of the state apparatus involved in energy issues through foreign policy, and military activity.³³ Second, significant changes in the geoeconomic and geopolitical centre of the world cast doubts on energy efficiency, control, and self-sufficiency. This is an issue related to the oil market and (to a lesser extent) to the gas market.³⁴ The effect of this is a dynamic rise in energy demand in non-OECD states, especially in China. This results in reducing OECD impact in the international energy market. Third, in states that so far met their energy needs on their own, the production limitation made them dependent on imports. This situation raises concerns about energy sovereignty. It can lead to a sense of insecurity caused by raw materials shortage and to international competition in the energy market: “the pursuit of what is left”.³⁵

Ariel Cherp and Jessica Jewell, perceive energy security in three categories: sovereignty, strength, and resilience.³⁶ In most political documents, energy security refers to threats to the supply system and geopolitical risks associated with short-term disruptions in oil and gas distribution on an international scale. First of all, the importance of these fuels in transport, electricity, and heat is considered. Therefore, energy security becomes a problem especially for the states importing these raw materials, which “have to tighten their muscles in the pursuit of energy resources”.³⁷ This reality means that energy security has serious geopolitical consequences and may even lead to armed conflicts.³⁸ Energy security also concerns the sphere of state sovereignty, focusing on the threats connected with the international distribution of energy resources. These threats affect both exporters and importers of raw materials. In this context, the price of the raw material is of great importance. Revenues from raw materials trade is essential for exporting states (not only economically, but also politically) because it determines the stability of regimes, as it is the government that is responsible for ensuring national energy security.

³² Bridge, “Energy (in)security,” 328–339.

³³ M. Bradshaw, “The geopolitics of global energy security,” *Geography Compass*, no. 3 (2009): 1920–1937.

³⁴ M. Klare, *The race for what’s left: the global scramble for the world’s last resources* (New York: Metropolitan Books, 2012).

³⁵ S. Dalby, *Environmental security* (Minneapolis: University of Minnesota, 2002).

³⁶ A. Cherp and J. Jewell, *Measuring energy security: from Universal indicators to contextualized Framework* (New York: Routledge, 2011), 330–355.

³⁷ Bridge, “Energy (in)security,” 328–339.

³⁸ D. Bohi and M. Toman, *The economics of energy security* (Boston: Kluwer Academic Publishers, 1996).

From an economic point of view, energy insecurity can be defined as a loss of economic prosperity due to limited access to raw materials or the price of energy.³⁹ The International Energy Agency defines energy security as uninterrupted physical availability of raw materials at an acceptable price, considering environmental protection.⁴⁰ Expanding the understanding of the concept of ‘security’ on economic and political issues involves an increase in the number of actors and their activities related to energy securitization.

Energy security, its specificity, and the origins of its understanding refer primarily to oil and gas. First, it is understood as the geopolitics of trade of these raw materials, as well as the relationship between producers, and consumers. This approach draws a clear difference between these two categories of energy market actors. Second, we can interpret energy security in terms of social life conditions. In this context, the oil crisis of the 1970s was “the moral equivalent of war”.⁴¹ The energy crisis showed how energy security could be interpreted and understood. Third, actions against destructive forces in order to satisfy the *status quo* enable the occurrence of various forms of threat to arise in the name of the ‘good life’ to be secured.⁴²

Energy securitization takes various forms, but the perspective of ‘sovereignty’ dominates in this dimension.⁴³ Other approaches emphasize the more comprehensive determinants of energy security. They focus not only on the state and its interests but extend the meaning of energy security to infrastructure systems related to conversion, transmission, distribution, and production of energy on a global scale.⁴⁴ According to F. Myuller, “The issue of access to energy resources is becoming increasingly important for the international community, as most modern states make physical survival dependent on it”.⁴⁵ V. Guseynov and A. Goncharenko emphasize that “constantly increasing importance of energy resources in world politics activates hidden and overt conflicts between states for control over them”.⁴⁶ In the opinion of V. Ogneva and A. Sidorov, “this new type of relationship increases the sensitivity of the actors of the international system to mutual actions (negative interdependence) and increases the awareness of the relationship between the

³⁹ Bridge, “Energy (in)security,” 328–339.

⁴⁰ Bridge, 328–339.

⁴¹ Hildyard, Lohmann and Sexton, *Energy security*, 328–339.

⁴² A. Lakoff, “From population to vital system: national security and the changing object of public health,” in *Biosecurity interventions: global health and security In question*, ed. A. Lakoff and S. Collier (New York: Columbia University Press, 2008), 33–59.

⁴³ Bridge, “Energy (in)security,” 328–339.

⁴⁴ Bridge, 328–339.

⁴⁵ U. Bihun, “Conceptualization of economic security in the context of energy markets’ integration,” *CES Working Papers* 10, no. 2 (2018): 167–181.

⁴⁶ M. Kyzym and V. Rudyka, “Analysis of the theoretical and methodological support of the study of energy security of the country,” *Makroekonomika*, no. 4/5 (2018): 18–23.

achievement of own goals and the interests of other actors of the system (positive interdependence)".⁴⁷ This shows the contradictory, and ambiguous character of the energy market, which generates both cooperation and conflicts between participants. According to A. M. Schlesinger, "since the industrial revolution, energy and the need to secure the supply of raw materials have become fundamental in the context of the distribution of power on a global scale".⁴⁸

Theoretical debate about the energy security

In this analysis, it is worth considering a realistic, and idealistic approaches to energy security. Analysing the national energy security, representatives of the realistic trend perceive the world as entangled in a number of challenges that are becoming increasingly dangerous. They treat energy security as a component of the global power policy and a tool of foreign affairs. They believe that today's energy market is incapable of providing supplies in the long term. Access to energy sources has always been and will continue to provoke armed conflicts between states. M. Klare calls this system "a shrinking planet of increasing forces".⁴⁹ Realist energy policy predicts an increase in the intensity of wars related to access to raw materials. This forecast is pessimistic and is associated not only with international conflicts but also with the degradation of the natural environment. However, some contradictions can be observed relating to various strands of realism. According to the paradigm of defensive realism, the actor implementing energy security policy should avoid conflicts, while the paradigm of offensive realism speaks of the necessity to conduct an energy policy at all costs, that is pursuing one's interests related to access to energy resources.⁵⁰ Proponents of neorealism, on the other hand, emphasize that states should develop energy policy on their own, because this is the only way they can obtain certain benefits. Representatives of this strand do not see the need for international organisations to develop energy policy. They emphasize the interest of the state as the main actor on the international scene. Realists emphasize, that the largest deposits of energy resources are found in Islamic countries, which causes additional civilization conflicts between the West and the East. Realists also distinguish between state and non-state actors when it comes to the extraction, and transport of energy resources. The resources at the disposal of states serve as tools of their foreign policy, while those managed by private businesses belong to a free market.

⁴⁷ Bihun, "Conceptualization of economic," 167–181.

⁴⁸ Bihun, 167–181.

⁴⁹ G. Luft and A. Korin, "Realism and idealism in the energy security debate," in *Energy Security Challenges for 21st Century*, ed. G. Luft and A. Korin (Santa Barbara: Praeger Security International, 2009), 340.

⁵⁰ T. Hoffmann and D. Magierek, "Polityka energetyczna Unii Europejskiej w wybranych teoriach badawczych," in *Między ewolucją a rewolucją – w poszukiwaniu strategii energetycznej*, ed. J. Maj, P. Kwiatkiewicz and R. Szczerbowski (Poznań: Wojskowa Akademia Techniczna, 2015), 192.

Idealists believe that wars for territories rich in natural resources will become increasingly rare in the future. The fight for raw materials is pointless, because it is more profitable to buy oil, and the interests of buyers and sellers are not mutually exclusive. All actors in the energy market seek stability, which is an indispensable element of profit for each of them. According to idealists, the basis of energy security is the belief in the strength of the market and the concept of interdependence. They emphasize that since oil and gas are traded on a global scale, disruptions in this market will affect raw material prices around the world.⁵¹ They believe in the rationality of energy market actors, who seek to maximize profits. Idealists opt for the concept of the so-called 'great transaction' between producers and consumers. They call for the development of multilateralism in energy security.⁵² Liberalism promotes free trade as the basis for the functioning of the international system. Among the energy security instruments most importantly diplomacy is mentioned, which can be used to prevent problems in this dimension. Mechanisms ensuring collective energy security play a special role in the liberal theory. Some of the national energy policy prerogatives are to be transferred to the supranational level. The aim of such action is to develop a specific level of energy security, as a result of energy policy-making by international organisations. The theory assumes, first, that actors in international politics are entities that act rationally to pursue their own interests. Second, states implement their foreign policy as a reflection of social expectations. According to the theory of transmission belts, individual social groups in a state have the opportunity to build their own hierarchy of values, and goals which they wish to achieve, determining the behaviour of a state on the international scene. Third, each state has its own configuration of preferences that change and create specific behaviours on the international scene.⁵³ Neoliberal institutionalism is another strand of liberalism which focuses on the importance of international institutions in mitigating any conflict. The role of states changes under their influence. In this theory, the so-called the prisoner's dilemma, consisting in the assumption that, if states find themselves in a situation in which they fear that someone else will benefit from their restrained behaviour, they do not break off cooperation but find preventive measures to allow it to continue. Such safeguards are various institutions established by states. Once state cooperation is institutionalised, states are not willing to abandon it. A branch of institutional neoliberalism is constructivist institutionalism, which understands institutions as sets of specific norms, rules, and habits. They also change the preferences of actors and influence their identity.⁵⁴

⁵¹ Luft and Korin, "Realism and idealism," 340.

⁵² Luft and Korin, 341.

⁵³ Hoffmann and Magierek, "Polityka energetyczna," 192.

⁵⁴ Hoffmann and Magierek, 212.

Referring to the representatives of political realism, security is treated as access to resources, which is necessary for the development of the state regime, and which represents the centre of geopolitical confrontation. Contrary to realists, representatives of the liberal strand pay attention to the development of international cooperation. They highlight the importance of peace and cooperation in the energy sector. This can be done by creating certain rules, treating this system as based on universal principles and interests.⁵⁵ Referring to the classic paradigm, energy security can be achieved both through the use of force and through cooperation.

The following analysis indicates the main debates regarding the interpretation of the essence and specificity of understanding the phenomenon of energy security, taking into account the challenges of the international energy market (Table 1). Thus, the conditions that were pointed out by both realists and idealists were taken into account.

In the 20th century, new security threats emerged, which led to the criticism of traditional research trends, and the emergence of new, postmodern ones. Critical security theories have been developed at universities in Wales, Copenhagen, and Paris. The Welsh school proposed the “emancipation theory”.⁵⁶ It proclaims the existence of a universal security system focused on the individual, rather than on the nation or state. As Ken Booth argued, the state is not always capable to provide security for its citizens.⁵⁷ At the same time, attention was given not only to the physical survival of people, but also to issues related to shaping the future, including climate problems.⁵⁸ The Paris school theory assumes blurring the boundaries between internal and external security, treating the latter as an aggregate of traditional threats to the state.

The link between the energy sector and the economy is manifested in the concept of “the economic security of the energy market”.⁵⁹ According to this approach, security can be explained using risk theory, conflict theory, and catastrophe theory. Undoubtedly, risk category is the conceptual basis of security. On the one hand, risk may cause a threat (the destructive aspect) and, on the other, it may affect economic security (the constructive aspect) through the emergence of alternative opportunities.⁶⁰ According to the International Index of Energy Security Risk, proposed by the US Chamber of Commerce in 2016, a comparison was made of the energy security risk of 25 leading energy consumers worldwide.⁶¹ The index

⁵⁵ Bihun, “Conceptualization of economic,” 167–181.

⁵⁶ Bihun, 167–181.

⁵⁷ See K. Booth, *Critical Security Studies and World Politics* (Boulder: Lynne Rienner, 2005).

⁵⁸ Bihun, “Conceptualization of economic,” 167–181.

⁵⁹ Bihun, 167–181.

⁶⁰ Bihun.

⁶¹ The International Energy Security Risk Index, <https://www.globalenergyinstitute.org/international-energy-security-risk-index>.

Table 1. The main debates and theses present in the literature concerning energy security.

Object of the analysis	Debate	Theses
Energy security	Oil and gas	Energy security means uninterrupted, and reliable access to cheap oil and gas.
	Energy sector	Energy security refers to the oil, gas, coal, nuclear energy, renewables, extraction, distribution, infrastructure, and global raw materials markets.
Availability of natural resources	Depletion of resources	Oil and gas reserves are depleting. No new resource deposits are discovered. The peak of extraction took place in the 1960s.
	Resource sufficiency	We have enough raw materials. Technological achievements will optimise the extraction, enable the discovery of new deposits, and alternative sources of supply.
Historical trend	Continuation	Energy demand is a process. States deal with energy security threats in an unchanging manner over a long historical period.
	Radical change	Nowadays, the demand for energy is growing rapidly, which requires special remedies.
Context	State	Energy issues affect the ability of states to function. The state is thus the main actor in the energy market.
	International environment	Dependencies in terms of the extraction, production, transport, and consumption of energy resources affect the international environment, and the global economic market.
Structure	Geopolitics	The energy sector can be an instrument for raw material producers to influence import-dependent states.
	Economy	The politicisation of energy has a negative impact on the economic situation of states and the functioning of the energy market.
Economic logic	Market nationalisation	Raw materials scarcity causes nationalization of the energy market. Energy is a "strategic commodity" that should be controlled by the state.
	Market liberalisation	The lack of stability in the energy market leads to a deficit of raw materials. The functioning of the energy market eases deficit and sensitivity (susceptibility to influence) in this dimension.

Object of the analysis	Debate	Theses
Result	Confrontation	The scarcity of energy resources leads to international conflicts over access to deposits, transport routes, and transmission infrastructure.
	Cooperation	Energy problems require cooperation between energy market actors to exploit the available raw materials, discover new deposits, and use alternative raw materials.
Optimal solution	Dependency	Potential disruptions in the supply of energy resources cause economic and political dependence and vulnerability. In such a situation, energy self-sufficiency is the only way to avoid dependence.
	Interdependence	Energy self-sufficiency is impossible. The interdependence between producers, consumers, and transit states is the main determinant of the energy market activity.

Source: own work based on: Felix Ciuta, "Conceptual notes on energy security: Total Or banal security?", *Security Dialogue* 41, no. 2 (2010):129.

methodology indicated that the higher the consumption level, the more risks for a given national market.⁶²

Energy policy can also be studied as part of a multi-level governance approach (MLG). The term 'governance' is translated as management or public management.⁶³ It is associated with economic sciences but has also found application in political sciences. According to U. Diedrichs, management is "a continuous political process setting clear goals for the society, and intervening when necessary to help achieve these goals".⁶⁴ The energy policy in the MLG system is one of the fundamental state policies that are part of the broadly understood economic policy. The multi-level nature of energy policy involves the cooperation of various actors. MLG system is characterised by various types of connections and feedback.

Similarly, the network theory explains the specificity of the energy system as a dynamic, multi-level, evolving phenomenon, a structure of dispersed, variable

⁶² V. Charles and A. Emrouznejad ed., *Modern Indices for International Economic Diplomacy* (Cham: Springer, 2022), 157–192.

⁶³ J. Ruszkowski, "Multi-level governance. Paradygmat teoretyczny," in *Multi-level governance w Unii Europejskiej*, ed. J. Ruszkowski and L. Wojnicz (Szczecin–Warszawa: Instytut Politologii i Europeistyki Uniwersytetu Szczecińskiego, 2013).

⁶⁴ L. Kolarska-Bobińska ed., *Nowe metody zarządzania w Unii Europejskiej* (Warszawa: Instytut Spraw Publicznych, 2009), 13.

systems, combining order and randomness.⁶⁵ The network approach to energy policy focuses on a broad spectrum of action models, in which preferences and specific relationships determine the scope of cooperation between actors involved in initiating and implementing energy policy. The networking of energy policy involves multi-level governance, where actors take appropriate actions at each level. Multilevelness is manifested in the fact that decisions made on different levels may interpenetrate or interact with one another. These include decisions of international organisations, states, and other structures. Multilevel management networks allow for effective management of various policies, including energy policy.

An important dimension of the analysis of the energy security policy is the geopolitical perspective. It is the study of the application of the principles of geography to world politics.⁶⁶ Saul Bernard Cohen integrated geography and international relations. He found it useful to “define geopolitics, not as a school of thought, but as mode of analysis, relating diversity in content and scale of geographical settings to exercise of political power, and identifying spatial frameworks through which power flows”.⁶⁷ According to the author, the geopolitical approach is understood also as “the political processes include forces that operate at international level, and those on the domestic scene that influence international behaviour”.⁶⁸ According to David Criekemans, “geopolitics was developed as an academic field in 1899 during the rapid changes in the global shift of power. At that time, the world was dominated by European powers that encompassed the whole world, in the wake of the colonial age and industrialisation. But this wave of globalisation started to collapse; European powers were vying for geoeconomic and geostrategic interests”.⁶⁹ Energy policy, as a reference to raw material resources, is significant in this context. Geopolitics is determined by economic interests and is associated with the term of geoeconomics, which means the use of economic policy instruments, and energy resources to achieve political goals. Geoeconomics can be used to describe, diagnose, and forecast the current situation on the international energy market. States and their energy concerns are competing for access to deposits of energy resources. The geopolitical (geoenergetic) approach to energy policy allows states to gain an advantage through the development of modern technologies of raw material extraction. Moreover, the theory assumes the importance of access to areas rich in energy resources, which may lead to conflicts between

⁶⁵ Hoffmann and Magierek, “Polityka energetyczna,” 201.

⁶⁶ C. Jean, *Geopolityka* (Wrocław: Ossolineum, 2003).

⁶⁷ S.B. Cohen, *Geopolitics of the World System* (Boulder, New York, Oxford: Rowman & Littlefield, 2003), 12.

⁶⁸ Cohen, *Geopolitics of the World System*, 12.

⁶⁹ D. Criekemans, “Geotechnical Ensembles’: How New Technologies Change Geopolitical Factors and Contexts in Economy, Energy and Security,” in *Geopolitics and International Relations*, ed. D. Criekemans (Leiden: Brill, 2021).

states. Energy policy as seen through the lens of geopolitics can facilitate political pressure, building political and economic influence.

Interesting theoretical approach, useful in the analysis of energy security policy, is the theory of complex interdependence, also known as the transnational approach. It was developed by Robert Keohane and Joseph Nye. In their opinion, political realism as a school did not propose a complex theory of international relations. Politics is shaped by growing interdependence, transnational processes, and the emergence of new global phenomena.⁷⁰ The transnational approach entails loosening of traditional channels of communication between legal or sectoral systems at the intergovernmental or supranational level. The interdependence is evident in the activities of transnational actors that affect the development of energy policy or the energy sector.

Implications for the international energy market

The analysis allows us to conclude that the combination of security and energy creates a new quality for the social sciences and international relations. Energy security is a dynamic phenomenon. Its definition depends on the specific character of the security policy actors, and relations on the international energy market. Access to energy resources is an existential need not only for all states but also for non-sovereign actors, such as multinational corporations. Thus, under the conditions of the continuous growth in energy consumption on the one hand and its politicisation on the other, it has become an indispensable impact of social life, and economic development, as well as an increasingly important factor in national and international security.

The study verified the research hypothesis, that the evolution of understanding the energy security concept, and the prospect of its development largely results from the relations on the global energy market. In this context, we are dealing with high dynamics of the energy market development, which undoubtedly influences the understanding the energy security concept. Satisfying the needs of producers and consumers is an enormous challenge for the global energy market due to the fact that the global demand for energy has risen significantly since the 1970s. because of urbanisation and industrialisation processes as well as the increase in consumption in the automotive industry.⁷¹

According to the Rafał Ulatowski, “After two decades of rather moderate interest in energy issues on the part of international relations scholars, the number of publications in this area began to grow again in the early 21st century. The reasons for this were a number of changes in the energy market”.⁷² He took into account the

⁷⁰ R. Keohane, *Power and Governance in a Partially Globalized World* (London: Routledge, 2002), 379.

⁷¹ Klare, “Energy Security,” 483–496.

⁷² W. Hilz and R. Ulatowski ed., *Energy Policy in Europe: Internal Dimensions and External Perspectives* (Baden – Baden: Tectum, 2019), 7–9.

changing price of crude oil, the competition among the great powers (especially China and India), the role of Russia, which started to develop its energy diplomacy, and the impact of climate change on energy policy.⁷³

However, in the context of the global COVID-19 pandemic, this situation has changed dramatically as the global economy has been adversely affected (global GDP has fallen by around 6%). Demand for energy decreased by 3.8% in the first quarter of 2020.⁷⁴ The transport industry showed a 50% decrease in activity compared to 2019, and the airline industry up to a 60% decrease.⁷⁵ Energy demand in this period declined steadily, especially for oil and coal.⁷⁶ Global energy demand in the first quarter of 2020 fell by 150 million tonnes of oil equivalent (mtoe) compared to the first quarter of 2019.⁷⁷ The International Energy Agency even estimated that the impact of the pandemic on energy demand in 2020 would be more than seven times greater than the impact of the 2008 financial crisis in that dimension.⁷⁸

Another disturbance in the international energy market become after Russia's invasion of Ukraine on 24 February. In recent months, energy prices have spiked to record highs – most notably in Europe and some major Asian markets – causing potentially significant economic impacts.⁷⁹ According to the International Energy Agency, such situation bring negative effects on energy companies and consumers, resulting in government interventions to limit the crisis.⁸⁰ The increases in energy prices affecting many economies worldwide.⁸¹ As Fatih Birol, IEA Executive Director said, that “Russia’s use of its natural gas resources as an economic and political weapon show Europe needs to act quickly to be ready to face considerable uncertainty over Russian gas supplies next winter”.⁸² Kadri Simson, European Commissioner for Energy, declared, that: “Reducing our dependence on

⁷³ Hilz and Ulatowski, *Energy Policy in Europe*, 7–9.

⁷⁴ IEA, “The impacts of the Covid-19 crisis on global energy demand and CO2 emissions,” *Global Energy Review*, 2020, <https://www.iea.org/topics/world-energy-outlook>.

⁷⁵ IEA, “The impacts of the Covid-19.”

⁷⁶ The demand for coal fell by 8% compared to 2019 data, oil saw a clear decrease in demand by about 5%, and only RES saw an uptake in demand. The demand for renewable energy sources will rise due to low operating costs and preferential access to many electricity systems. Recent increase in efficiency, some new projects coming online in 2020 would also increase production: IEA, “The impacts of the Covid-19.”

⁷⁷ IEA, “The impacts of the Covid-19.”

⁷⁸ IEA.

⁷⁹ IEA, “Europe and the world need to draw the right lessons from today’s natural gas crisis,” <https://www.iea.org/commentaries/europe-and-the-world-need-to-draw-the-right-lessons-from-today-s-natural-gas-crisis>.

⁸⁰ IEA, “Europe and the world.”

⁸¹ IEA.

⁸² IEA, “IEA provides 10-Point Plan to European Union for reducing reliance on Russian supplies by over a third while supporting European Green Deal, with emergency options to go further,” <https://www.iea.org/news/how-europe-can-cut-natural-gas-imports-from-russia-significantly-within-a-year>.

Russian gas is a strategic imperative for the European Union. [...] But Russia's attack on Ukraine is a watershed moment".⁸³

Conclusion

The key question of the presented paper was therefore, how to analyse the area of energy security, and which theoretical assumptions are most relevant in this context. We can safely assume that there is no single theory that would be adequate in the process of analysing the specificity of energy security in the contemporary international relations. Undoubtedly, the issues of energy security are more and more often subject to the securitization process in the context of turbulence and uncertainty on the energy market, especially in the face of the Russian invasion on Ukraine.

In line with the realistic approach, we are dealing with the use of energy security as a foreign policy 'weapon' on international markets. Such a strategy was characteristic of Russia in its relation to the European Union and the post-Soviet states. Representatives of the realistic trend, analyzing the energy security of the state, see the world as entangled in a number of challenges that are becoming more and more dangerous. They treat energy security as an element of the global power policy. It seems, therefore, that the realistic trend in energy security research will most often be developed by scientists and analysts of this research area. Similarly, the geopolitical (geoenergetic) approach to energy policy will certainly be developed due to the importance of access to areas rich in energy resources, which may lead to conflicts between states.

However, in the face of numerous and unexpected changes on the international energy market, risk theory seems to be the most adequate theoretical approach as the conceptual basis of security. According to this theory, the risk of breaking the energy cooperation of European states with Russia in the face of the war in Ukraine may cause a serious economic crisis (the destructive aspect). Simultaneously, on the other hand, it may affect emergence of alternative opportunities to economic security through the accelerating the energy transformation towards the development of renewable energy (the constructive aspect). As a consequence, paradoxically, Russia's war in Ukraine may accelerate the implementation of the EU's plan to reduce dependence on non-renewable resources and motivate the member states to pursue a more diversified energy security policy.

James R. Schlesinger⁸⁴ stated that "the world is facing a problem related to energy supply [...] we must get used to a certain level of danger in this dimension".⁸⁵

⁸³ IEA, "IEA provides 10-Point Plan."

⁸⁴ US Secretary of Defense in the administrations of R. Nixon and G. Ford, US Secretary of Energy in the J. Carter administration.

⁸⁵ Klare, "Energy Security," 483–496.

He further stated that “while we are dealing with modern technologies, we are exposed to multiple threats to energy security. Therefore, instead of addressing energy security, we should address threats to energy security - energy insecurity. We are facing different levels of insecurity today”.⁸⁶

Data availability

No data are associated with this article.

⁸⁶ M. Klare, “There will be blood: political Violence, regional warfare, and the risk of great-power conflict over contested energy sources,” in *Energy Security Challenges for 21st Century*, ed. G. Luft and A. Korin (Santa Barbara: Praeger Security International, 2009), 44.