

Energy Security and the Problem of Concept Control in International Relations

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Abstract:

The concept of security is controversial in political sciences in particular. It gets further intensity when it correlates to energy, which in turn witnesses similar controversy or even a harder one in real life. Such controversy revolves around the international conflicts and their extension and categorization among states (between imported and produced), in a path taken by the world all over its historic stages, and still taking in modern world, prevailed by influence and its resources. This particular international competition and conflict has transformed energy security to a significant resource for states, going in tandem with an academic controversy in international relations and collaboration, particularly amid the emergence of security studies, which provided a diversity at the level of analysis dimensions. This study attempts to highlight the concept of energy concept and to analyze its theories in international relations aiming to control its controversial concept.

Keywords: Security; Energy Security; Realistic approach; New Realists; Liberal approach.

1. INTRODUCTION

Concepts play a crucial and fundamental role in the social sciences in general—and in political sciences in particular—due to the debates among researchers and their implications for research themes in the field. Among the concepts that emerged in the 1970s and 1980s is the concept of energy security, which was discussed by Wilson Churchill, who noted that its essence lies in diversity. Evidently, this concept did not remain confined to Churchill's definition; rather, it expanded to encompass the perspectives of both exporting and importing countries regarding energy, as well as the viewpoints of international organizations that recognized energy security as a complex, rather than a conventional, concept at the international level. This complexity arises from its tangible impacts and its connections to the global citizen's access to energy. Moreover, organizations have focused on the quality of that energy—whether it is clean and environmentally friendly or not. This practical, international and organizational debate did not occur in isolation from a parallel academic debate at the theoretical level. In the field of international relations, the concept of energy security has attracted significant attention due to its links with security studies and the various theoretical approaches concerning its relationship with national security, the protection of energy supplies, and the ways in which mutual dependence and cooperation between imported and produced countries can foster sound international relations. All these analyses have distinguished the concept of energy security, leading us to pose the following research question: To what extent is there agreement among theoretical approaches in international relations regarding the concept of energy security?

Hypotheses

- The agreement among theoretical approaches in the field of international relations regarding the concept of energy security is limited to addressing the concept itself, analyzing it, and assigning it significant study space.
- There is no consensus among theoretical approaches in international relations regarding the concept of energy security, due to fundamental differences in how these approaches view major political phenomena in international relations. These intrinsic differences affect their analysis of any concept, including energy security.

Main and Subordinate Research Questions

- What is energy security, and what related concepts are associated with it?
- How have international organizations defined energy security?
- Are there additional dimensions upon which energy security can be defined?

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Methodology

To address the research question and test the proposed hypotheses, the following approaches were employed:

- **Analytical Approach:** Through this approach, the concept of energy security was analyzed from the perspective of its associated concepts in the first section, as well as through an examination of both the realist and liberal perspectives on this concept in the second section. This analysis also incorporated the practical dimension encompassing international organizations and their overall views on energy security.

To address the research question, the following structure was adopted:

Section One: The Conceptual Framework of Energy Security

- Subsection One: The Concept of Energy Security
- Subsection Two: Concepts Associated with Energy Security

Section Two: Energy Security and the Issues in Its Conceptual and Theoretical Definition

- Subsection One: Issues in Defining Energy Security at the Conceptual Level
- Subsection Two: Issues in Defining Energy Security at the Theoretical Level

2. The Conceptual Framework of Energy Security

In this section, we address all aspects related to the concept of energy security and its definition at the linguistic and terminological levels, as well as from the perspectives of major nations and international organizations.

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2.1.1 Definition of Energy Security

Energy security is, by its nature, a complex and multifaceted concept, primarily due to its interconnection with other key concepts.

First: Definition of Security

- **Linguistically:** The term denotes tranquility, serenity, and the absence of fear.
- **Terminologically:** According to Leibman, security is a value that can increase or decrease depending on a nation's ability to deter or repel any attack or to overcome defeat.

Arnold Wilfer considers security, from a subjective standpoint, as the

absence of threats to acquired values; whereas, from an objective perspective, it signifies the absence of fears regarding the endangerment of these values.¹

Second: Definition of Energy

The term “energy” is derived from the Greek word *energeia*, meaning “the power in motion.” Energy is an essential element upon which human life depends, and it is challenging to pinpoint an exact definition because it is not a tangible substance; rather, it is the capacity to perform work.²

Energy is that which provides us with light, warmth, and mobility. It enables us to extract and process food from the earth, brings water to our hands, and powers the machinery that serves us.³

Third: The Concept of Energy Security

According to British Prime Minister Winston Churchill, energy security lies solely in diversity.⁴

Barton Barry defines energy security as the condition in which a nation—as well as the majority of its citizens and businesses—is able to access sufficient energy resources through a guaranteed process, thereby ensuring a future free from any real threats arising from the sector’s challenges.⁵

At the level of international organizations:

The United Nations defines energy security as the state in which energy supplies are available at all times in diverse forms, in sufficient quantities, and at reasonable prices.⁶

The European Commission defines energy security as the ability to guarantee future essential energy needs through adequate local sources that operate under economically acceptable conditions or by maintaining them as strategic reserves. This is achieved by securing stable and easily accessible external sources and by increasing strategic stocks.⁷

The World Bank defines energy security as the assurance by nations of sustainable energy production at an affordable cost in order to support economic growth, reduce poverty, and improve the quality of life by providing access to modern energy services.⁸

The International Energy Agency (IEA) defines energy security as the continuous stability of energy supplies at acceptable and affordable prices while maintaining environmental considerations. It is associated with sustained investments in energy supplies and developments in both economic and environmental sectors.⁹

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Definition of Energy Security At the Level of Major Countries:

United States: Energy security in the U.S. is defined as reducing reliance on imported energy sources by promoting the use of locally produced fuels. This approach also involves mitigating the risks of price shocks by diversifying both suppliers and importers, with the reliance on biological energy alternatives considered a key component of American national security.¹⁰

Russia: In Russia, energy security revolves around ensuring secure demand, maintaining long-term price stability, and upholding long-term contractual commitments.¹¹

China: In its Tenth Five-Year Plan (2001–2005), China defined energy security as the assurance and safeguarding of foreign energy sources in a way that guarantees continued economic growth and modernization. This definition reflects the traditional approach to energy security—namely, supply security—by ensuring that foreign energy supplies are secured in a manner that prevents any undermining of economic growth or disruption of social stability. Consequently, China views energy as a matter of national security that should not be left solely to market forces but must be subject to regulatory measures.¹²

We have concluded that there are multiple perspectives in defining energy security, largely because it is an inherently complex concept. At the level of international organizations, there is consensus on the importance of ensuring its availability. In contrast, major countries agree on the necessity of securing energy supplies but differ in their strategies and mechanisms. For example, the United States views its energy security in terms of reducing external dependencies by substituting them with domestic fuel sources, whereas China believes its economic growth is tied to the stability of global fuel supplies. Meanwhile, Russia's energy security is linked to maintaining stable demand and prices that serve its economy.

2.2 Concepts Associated with Energy Security

The concept of energy security is intertwined with several other concepts that are employed at both economic and political levels.

2.2.1 Energy Transition:

Thiziri H. defines energy transition as: the shift toward a more environmentally respectful energy mix that is more economical in terms of depletable fossil resources. This transition is regarded as one of the most pressing aspects of the global shift towards a low-carbon economy and the reduced utilization of natural resources, thereby fostering sustainable value and wealth creation. It is fundamentally based on energy efficiency.¹³

2.2.2 Renewable Energy:

Renewable energy refers to energy derived from natural resources that are either continuously replenished or inexhaustible. The sources of renewable energy differ fundamentally from fossil fuels—such as oil, coal, natural gas—or nuclear fuel used in nuclear reactors. Typically, renewable energy does not produce carbon dioxide, harmful gases, or contribute to global warming, as occurs with the combustion of fossil fuels or the hazardous nuclear waste generated by nuclear power reactors.¹⁴

2.2.3 Conventional Energy:

Conventional energy is defined as the energy derived from resources whose reserves in the earth are considered fixed within a realistic planning timeframe. This limitation affects the ability of future generations to access and exploit these resources. Conventional energy resources are divided into two categories: resources that can be recycled, such as metals, and those that cannot be reused, such as petroleum.¹⁵

2.2.4 Energy Supply Security:

Energy supply security refers to the capacity of an energy system to withstand extraordinary and unforeseen events that threaten its physical integrity. Such events may lead to disruptions in energy supply and abnormal increases in energy prices. Consequently, energy supply security encompasses two dimensions: an internal dimension, which focuses on rationalizing domestic consumption, and an external dimension, which involves dependency, resource scarcity, and external risks associated with primary energy sources (gas, oil, coal, and uranium).¹⁶

2.2.5 Energy Crisis:

An energy crisis is defined as the inability to meet the full demand for energy in the global market.¹⁷

3. Issues in the Definition of Energy Security at the Conceptual and Theoretical Levels

The challenges associated with defining energy security extend beyond its status as a widely recognized concept in political and economic sciences; they also encompass additional complexities that will be addressed in detail.

3.1 Issues in the Conceptual Definition of Energy Security

Within the challenges of defining energy security, issues arise from the perspectives of international actors and traditional definitions, which will be discussed in detail.

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3.1.2 The Definition of Energy Security at the International Level

We can divide the definition of energy security into three primary perspectives, as follows:

From the Perspective of Energy Consumers:

Energy security is centered on ensuring the availability and continuity of energy supplies, stabilizing prices, and securing access at reasonable costs. In this framework, oil-importing countries consider their energy security to be achieved if they can procure this resource at a low cost.

From the Perspective of Energy Producers and Exporters:

For energy-producing nations, energy security is defined by ensuring the financial returns from energy sales and securing a continuous influx of investments and capital for projects that foster economic and social development. Thus, for these countries, energy security is manifested in the sustained production of oil and gas and their sale at prices that serve their national interests.

From the Perspective of the International Community:

At the international level, energy security is interlinked with other dimensions of security—particularly economic, social, and environmental security—along with political, security, and economic stability, as well as the stability of prices on the global market.¹⁸

3.1.3 Understanding Energy Security Through Traditional Definitions

Energy security can be defined based on three variables:

Availability: Energy security primarily stems from the availability of energy services and commodities, and from consumers' ability to secure the energy they require.

Reliability: Reliability involves the protection that energy services have against interruptions. Enhancing energy reliability includes diversifying supply sources, establishing emergency reserves, and developing infrastructure.¹⁹

Affordability: The affordability aspect of energy security is not merely about whether energy prices are low or high relative to available income. Price shocks often lead to catastrophic humanitarian or economic difficulties, which may even result in political instability, as energy consumers struggle to cope with unexpected financial burdens.²⁰

3.2 Issues in the Theoretical Definition of Energy Security

The fundamental differences in definitions within the humanities in general—and political science in particular—stem from the various schools of thought to which researchers subscribe, as their analyses are influenced by these differing perspectives.

3.2.1 The Realist Approach to Energy Security

During the Cold War, the realist school dominated security studies because it provided explanations for wars and the obstacles to international cooperation. Its prominence stemmed from the nuclear competition between the Soviet Union and the United States, a rivalry characterized primarily by military considerations during the early decades of the Cold War. According to realists, energy security is an integral component of national security, and the two cannot be separated; true security is achieved only through the use of force in its military and material forms to ensure the survival, protection, and defense of the state in a context where state power reigns supreme. Consequently, from a realist perspective, states are compelled to mobilize all necessary means and resources to secure energy supplies, thereby bolstering their position in any potential conflict. The importance of energy security in the realist view was further underscored by the first oil crisis of 1973.²¹

3.2.2 Neorealism and the Concept of Energy Security

Neorealism emphasizes the centrality of the state as the primary actor in energy security policy. It contends that robust military actions are necessary to ensure energy security, which is among the key research topics within this school of thought. Both Kaliaki and Goldwyn argue that energy security can only be considered within the context of national security, asserting that energy challenges profoundly impact a state's foreign policy strategy. Wilson extends this perspective by introducing the concept of maritime security as a guarantee for energy transportation. Consequently, neorealists link national interests with energy policy²², arguing that bilateral energy agreements are more significant than multilateral arrangements, where the multiplicity of state interests complicates coordination. They go further to explain that certain facets of global conflict, violence, and even terrorist attacks are outcomes of security and structural changes associated with energy interests in a context of heavy international reliance on oil and gas, coupled with intense competition over energy resources and technologies among states. This situation necessitates that states bolster their military capabilities. Neorealists contend that energy resources are fundamentally tied to power because, on one hand, they confer political influence, and on the other, they are intrinsically linked to international diplomacy due to their scarcity. As R. Gilpin and S. Strange assert, this economic factor serves to safeguard national security and solidify a state's political clout.²³

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3.2.3 The Liberal Approach to Energy Security

Within this school of thought, the theory of interdependence in international relations is emphasized, focusing on the economic dimension embodied by the Industrial Revolution. This era created a situation in which every state became heavily dependent on others for both supplying its necessities and marketing its manufactured goods. Such mutual dependence placed each state's economic security under the influence of others. Through the concept of compounded interdependence introduced by Robert Keohane and Joseph Nye in the post-Cold War period, energy security emerged prominently in this context. Mutual reliance is manifested in the sharing of available resources, which in turn fosters peaceful relations between states—that is, between energy-producing and energy-importing nations—given the inherent mutual needs of both parties. Producing countries require markets for their resources, while consuming countries rely on these resources to sustain their economic activities. Since most major industrial nations are unable to fully secure their oil needs domestically, their energy and security policies are oriented toward ensuring the uninterrupted flow of oil from oil-producing regions by all available means. This situation creates an interdependent relationship where each party is keen to maintain these relations. Moreover, the concept of soft power—the ability to achieve objectives through attraction rather than coercion—suggests that a state capable of harnessing its energy resources to achieve its goals will clearly reflect this in its foreign policy determinants.²⁴

3.2.4 Neoliberalism and Energy Security

Neoliberals have increasingly focused on the role of international institutions in shaping the global energy landscape. This is demonstrated by several points:

- They argue that such institutions can intervene in cases of market failure and during abnormal situations—such as economic crises or disasters. Notably, interventions of this nature occurred in the 1970s during the oil crisis by the Organization of the Petroleum Exporting Countries (OPEC) and the International Energy Agency (IEA).
- Institutions such as the International Energy Forum work to improve information transparency and increase trust among global energy actors.
- Organizations like the World Trade Organization and frameworks such as the Energy Charter Treaty have been established to set rules and standards for international cooperation in the energy sector. Consequently, they help to secure energy supplies to the market through mechanisms of competition and solidarity

that ensure collaborative efforts.²⁵

4. CONCLUSION

In the final section of our research paper on energy security and the challenges of defining the concept within the field of international relations, we have:

- we also confirm our first hypothesis, which posits that the consensus among theoretical approaches regarding energy security is limited to addressing the concept itself, analyzing it, and dedicating significant scholarly attention to it. For example, the realist, neorealist, liberal, and even neoliberal schools have all discussed energy security within their respective analyses.
- Confirmed the second hypothesis, which asserts that there is no uniform agreement among theoretical approaches in international relations on the concept of energy security. This divergence arises from fundamental differences in how these approaches view the major political phenomena in international relations, which in turn affect their analysis of any concept, including energy security. For instance, the realist approach regards energy security as an integral component of national security that can only be secured through military and material power, whereas the liberal approach interprets it through the lens of interdependence—as articulated by Robert Keohane and Joseph Nye—where energy fosters peaceful relations between energy-producing and energy-importing states. We also reached the following conclusions:
- The issues in defining energy security extend beyond theoretical approaches to the level of international actors. Here, the perspectives of energy consumers differ from those of energy producers, and major countries such as the United States, Russia, and China each interpret energy security according to their own interests and specific energy contexts. Another dimension is represented by international organizations—namely, the United Nations, the European Commission on Energy Security, and the World Bank—which all agree on the necessity of maintaining uninterrupted energy supplies and stable prices on the international market, while the International Energy Agency additionally emphasizes environmental considerations.
- The concept of energy security emerged amidst an international struggle that intertwines politics and economic interests, as exemplified by the

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1973 oil crisis, and it will continue to spark political and economic debates.

- Energy security will remain a challenge with respect to ensuring continuous supplies and preventing potential energy crises, which could even pave the way for further global conflicts as major countries seek to secure their energy needs.
- Today, energy security has become part of the global environmental security agenda due to its impact on climate change, which in turn is likely to produce an alternative concept favored by environmental advocates.

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