

Public administration system of energy security: An analysis and new opportunities

Sistema de administración pública de seguridad energética: un análisis y nuevas oportunidades

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ABSTRACT:

Energy security is an important component of economic, environmental and the national security of each country. For a long time energy security is being one of the most politicized global concerns and depends on many factors, including the availability of fossil energy sources and the geographical location of the country, access to natural resources, as well as political relations between energy exporters and importers. The aim of the present study is to analyze the United States (US) practices in the field of public administration of energy security in the frameworks of the concept of national interests. The article analyses the US experience in the context of ensuring national economic interests in the energy sector and public administration of energy security, as well as reveals the priority directions of the US national energy security policy, system of state bodies forming this policy, and substantive legal framework. The authors characterize the energy security condition of Kazakhstan and substantiate a range of measures for enhancing energy security, associated with the improvement of the public administration of energy sector in the framework of the

RESUMEN:

La seguridad energética es un componente importante de la seguridad económica, medioambiental y nacional de cada país. Durante mucho tiempo la seguridad energética es una de las preocupaciones globales más politicizadas y depende de muchos factores, incluyendo la disponibilidad de fuentes de energía fósil y la ubicación geográfica del país, el acceso a los recursos naturales, así como la política relaciones entre los exportadores de energía y los importadores. El objetivo del presente estudio es analizar las prácticas de los Estados Unidos (EEUU) en el ámbito de la administración pública de la seguridad energética en los marcos del concepto de intereses nacionales. El artículo analiza la experiencia de los Estados Unidos en el contexto de garantizar los intereses económicos nacionales en el sector energético y la administración pública de la seguridad energética, así como revela las direcciones prioritarias de la política nacional de seguridad energética de Estados Unidos, sistema de estado órganos que forman esta política y un marco jurídico sustantivo. Los autores caracterizan la condición de seguridad energética de Kazajstán y fundamentan una serie de medidas para mejorar la

concept concerning national interests of the Republic of Kazakhstan.

Key words: national security, power economy, energy policy, energy security, national economic interests, energy interests.

seguridad energética, asociadas a la mejora de la administración pública del sector energético en el marco del concepto relativo a intereses nacionales de la República de Kazajstán.

Palabras clave: seguridad nacional, economía de poder, política energética, seguridad energética, intereses económicos nacionales, intereses energéticos

1. Introduction

Power industry has penetrated into all spheres of the economy, ensuring the functioning of all sectors of the national economy and making a significant contribution to the formation of budget revenues and foreign currency incoming. To ensure economic growth in industrially developed countries, it is necessary to implement rapid development of energy and transport systems. The functioning of all elements of social life depends on secured provision of energy resources. That is why energy security is one of the most important components of economic security of any state. In this regard, searching the ways to ensure energy security of Kazakhstan by improving the public administration system of energy security is an extremely urgent task.

To date, there is no single approach to the definition of "energy security". Analyzing different sources (Aliyarov, n. d.; Elibaeva 2011; Gafurov, 2010; Denchev 2010; Bompard, Carpignano, Erriquez, Grosso, Pession, and Profumo, 2017; García-Gusano, Iribarren, and Garraín, 2017), which offer various definitions of the "energy security" term, we can conclude that energy security is the ability of the state to provide the most reliable, technically safe, environmentally acceptable, and reasonable energy supply of economy and population, as well as the formation and implementation of state policy towards protection of national interests in the energy sector without excessive external and internal pressure in current and foreseeable conditions. Energy security is such a state of protection of the national economy sectors and population, which prevents the occurrence of threats to relatively reliable supply of fuel and energy resources.

According to experts, assessment of the status and level of energy security should be implemented using a number of indicators, namely: energy supply, energy dependence, economic feasibility, and social stability. (Wang and Zhou, 2017).

The most important task of energy security is ensuring the energy independence of the country. With this purpose it is necessary to note the strategic objectives of energy development, in particular:

- reliable supply of energy required to needs of the national economy sectors and population;
- reliable operation of industry sectors and enterprises of fuel and energy complex;
- reduction in the harmful environmental impact of the fuel and energy complex;
- the state guarantees for social protection of the fuel and energy complex sectors (Sydykov, 2010)

From the standpoint of the World Energy Council, energy security means managing the energy supply from domestic and external sources, the reliability of the energy infrastructure, and the ability to meet current and future energy needs. According to these indicators, Kazakhstan ranks sixth in the world. (World Energy Trilemma Index 2016)

Providing 3% of world oil production, Kazakhstan is among the 15 largest oil-producing countries, while oil reserves of 40 billion barrels guarantee the country's ranking in the top ten leading countries in terms of energy supply. Kazakhstan possesses proven gas reserves of 1.5 trillion cubic meters, and is included in top 15 leading countries of the world in terms of gas reserves. (BP Statistical Review of World Energy, 2016) Kazakhstan is the world's largest uranium producer, providing at least 38% of world production (Kazakhstan tops uranium league), and has significant reserves of coal to meet its energy needs for 150 years (Energy Charter Secretariat, 2015).

While domestic energy security in Kazakhstan is not so problematic, on a global scale the energy security is currently one of the challenges of the XXIst century that was noted by the President of the Republic of Kazakhstan N. Nazarbayev in his message "Kazakhstan 2050 Strategy". Kazakhstan's contribution to the production of oil, gas and other minerals makes it an important player in the solution of this global problem. Therefore, responsible management of the rich natural resources of Kazakhstan is the key to meet nation's growing needs.

On a global scale, the increasing competition on energy resource markets is a key characteristic of the contemporary global economic processes. The highest level of competition concerns those products that are vital to the functioning of any economy though being non-renewable energy sources. This in particular concerns fossil fuels, which are in a constant demand in advanced countries (almost all highly developed countries do not cover their energy needs by their own energy resources and are dependent on imports of these resources, with the exception of Canada, Norway, and some other countries (Dudin, Lyasnikov, Sekerin, Gorokhova, Danko and Bank 2017). At the same time, a dominant part of the global supply of such resources is provided by politically unstable countries, such as Iran, Iraq, Libya, Venezuela, as well as the Persian Gulf region, because the political regimes of almost all countries of this territorial-geographic community are undemocratic in terms of the source of power, and totalitarian in terms of the scope of power that carries a high probability of socio-political upheaval.

2. Methods

The aim of the present study is to generalize the US experience in public administration of energy security in the frameworks of the concept of national interests.

We consider national interests of the state as the aggregate of the balanced interests of personality, society and state in various spheres of activities: economic, political, social, international, etc. National interests are ensured by the institutions of state power performing their functions, including cooperation with non-governmental organizations (NGO). National interests are long-lasting and define main goals, strategic and current tasks of internal and foreign state policy.

The following methods were used in the course of the research:

- general scientific methods (analysis, synthesis, and generalization) to study the scientific literature and expert materials on the problem of implementation of national interests in the public administration of energy security in the US;
 - the theoretical prediction to identify the ways of using the ideas and experience of the US in the public administration of energy security in Kazakhstan;
 - particular scientific methods, such as retrospective method to determine specific features of formation and development of the content, forms, and methods of public administration of energy security in the US; and systematic and structural method to systematize the US experience in public administration of energy security.
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3. Results

Today, the US is the undisputed global economic leader and at the same time energy-dependent state. This fact determines the fundamental components of the national interests of the country, namely security and prosperity, especially in the economic sphere.

From a scientific viewpoint, immediate national interests of the US have a multilevel gradation and consist of the following groups: vital interests, critical interests, important interests, and secondary interests. At the same time, as evidenced by the analysis, in the system of the US national interests, considerable attention is paid both to the economic framework in general and energy related aspects in particular. To ensure national economic interests in the energy sector in the global market, the USA pays major attention to secure stability and predictability of energy sector, as well as to prevent the monopolization of the energy production under the

auspices of a particular state.

However, it should be noted that the above-mentioned US priority list of national interests is not properly codified, while national interests permeate the whole national legislation and form the basis of public policy, including energy policy. Given gradation is proposed by the group of North American scientists, public and political figures (Allison and Blackwill 2000), who carried out their generalizations based on existing social and personal values, priorities of the state policy, the constitutional basis of the state existence, and the existing legal framework of the US.

One of the tools to implement national interests of both the US and any other country is an appropriate system of national security. Peculiarly, the US national security is interpreted as the ability of national institutions to prevent harm to citizens or national interests of the US by opponents, as well as convincing citizens in existence of such ability (Sarkesian Williams and Cimbala, n.d.).

The second tool to ensure the national interests of the US is foreign policy, which is directed on creation of the most favorable conditions for the US and securing the implementation of their national interests. The basic tools to implement this policy are politics and diplomacy combined with economic and psychological measures.

The third tool to implement national interests is domestic policy, which focuses on economic development, energy independence, internal security, education, public health service, and the like. To coordinate the efforts of all appropriate authorities responsible for the implementation of the domestic policy there is a special authorized body named the Domestic Policy Council (DPC), which also monitors the implementation of decisions on domestic policy matters, as well as provides upholding the priorities of the President initiatives in the US Congress (Domestic Policy Council). It should be noted that in the course of implementation of the US national interests the noted tools are used in deep interrelation with each other in such a way that a clear distinction between them is almost impossible.

Therefore, let consider specific examples of using these tools. With regard to the first tool, we should note that the foundations of the national security system of the US are defined in four basic documents - the National Security Act of 1947 (National Security Act of 1947), the Homeland Security Act (HSA) of 2002 (The Homeland Security Act of 2002), the 2015 National Security Strategy (National Security Strategy.), and the Blueprint for a Secure Energy Future of 2011 (Blueprint for a Secure Energy Future).

Thus, the National Security Act of 1947 defines the elements of the infrastructure of the US national security system that so far remain relevant. In particular, a number of state institutions and organizations, the task of which was providing variable aspects of the national security system, were established in the frameworks of the concerned Act. Given the subject of the research, the most important and at the same time the most interesting is the National Security Council, which is a body mandated specifically to exercise general coordination in the sphere of the state policy on national security. The National Security Council members include President, Vice-President, Secretary, Defense Minister, and other Ministers (depending on the issues on the agenda of the Council meeting). There are two committees under the auspices of the Council: the Committee on Foreign Intelligence, whose task is obtaining the intelligence information necessary to ensure national security, as well as determine the directions of the intelligence activities of the competent authorities; and the Committee on Transnational Threats, which aims at identifying such threats, developing strategies to deal with them, disseminating the information about identified threats among concerned government bodies, etc.

Another legal document in the sphere of national security is the Homeland Security Act (HSA) of 2002, which focuses on building of homeland security infrastructure. This Act provides for the establishment of the US Department of Homeland Security (DHS), the body authorized to conduct a unified state policy of internal security of the US, which coordinates activities in the

field of internal security with other governmental bodies through appropriate Agency, including the Ministry of Energy, depending on the scope of the emerging threat.

Besides, in the frameworks of noted Act, the US Homeland Security Council (HSC) was established, which is an advisory body on internal security issues under the President of the US. The HSC members are the President, Vice-President, Ministers of finance, defense, internal security, health, transport, Attorney General, Director of the Federal Bureau of Investigation, as well as other officials, including the US Minister of Energy, depending on the issues submitted for consideration at the mentioned Council.

National Security Strategy is another important document concerning the foundations of US national security, which is focused on strengthening the national economy worldwide by improving its competitiveness and ensuring the sustainability of the global economic system. At the same time, the document states that the competitiveness of the national economy should be ensured by the opportunities of uninterrupted access to fossil energy resources abroad. At that, it is noted that such a situation contains a significant risk to the US national security due to disruptions in supply and fluctuations of the political environment of the exporting countries, and is unacceptable in the long-term perspective. Therefore, the document states that the US should pay key attention to development of clean energy technologies that should lead to a new industrial revolution, which will provide a reliable energy foundation for the development of the national economy. In addition, attention is accented on the necessity of activating private initiative in the development and implementation of up-to-date energy technologies.

The next document concerning the national security, though in contrast to previous ones, related directly to energy issues, is the Blueprint for a Secure Energy Future, proposed by the US President in 2011. Its key thesis touches upon development and securing of domestic energy resources (the development of domestic deposits of energy resources, the development of up-to-date technologies and innovations to reduce external dependence), provision of opportunities for public choice aimed at reducing cost and saving energy resources (rising prices for conventional fuels increase the demand for fuel-efficient vehicles with innovative engines and energy-efficient technologies to reduce household costs), as well as implementation of innovations as a path to a clean energy future (the development and implementation of new energy technologies that will strengthen the role of the US economy in the international arena and ensure its global competitiveness).

The grounds for the implementation of the second tool of the US foreign policy during the times of B. Obama's administration were determined by the First Quadrennial Diplomacy and Development Review (The First Quadrennial Diplomacy and Development Review: Leading through Civilian Power). The key thesis of this document was the need to strengthen the stabilization of civilizational influence of the US in the world, including that achieved through the USAID 9 (US Agency for International Development) program, whose ultimate goal was building a global environment sustainable and favorable for the US. With this aim, a structural reorganization of the State Department was carried out, which resulted in appointment of several branch Deputy Secretaries of the State Department, including those responsible for the issues of economic growth, energy, and the environment. The tasks of newly established subordinate units consisted among other things in ensuring energy security of the US. In addition, Office of Energy Resources was established within the structure of the Department of State. The office was entrusted the following functions: energy diplomacy (establishing and maintaining relationships with the largest energy resources' producers and consumers); energy transformation (ensuring shifting the focus of the national energy policies from use of fossil fuels to renewable energy sources); energy transparency and accessibility (ensuring equal access of all stakeholders to the global market of energy resources).

A specific manifestation of the third tool is the set of basic normative and legal acts on the settlement of the variable scope of domestic policy. Given the research topic, the most interesting among them is the Energy Policy Act of 2005, (Energy Policy Act of 2005), Energy Independence and Security Act of 2007 (Energy Independence and Security Act of 2007), as

well as the American Recovery and Reinvestment Act of 2009 (ARRA) (American Recovery and Reinvestment Act of 2009), which comprehensively determine the directions of the state policy in the energy sector.

Thus, the Energy Policy Act determines a number of Federal and local programs to increase energy efficiency; measures to develop renewable energy sources, and to improve the oil and gas market functioning conditions; implementation of programs to increase the use of coal and derivatives; nuclear power functioning issues; the research directions and measures to improve the efficiency of transportation, engines and fuels; development of new fuels for vehicles, in particular, hydrogen fuel; a number of research programs and projects in the energy sector; measures on development of electricity generation and transmission infrastructure; a package of measures on tax incentives for energy efficiency, and other activities.

Energy Independence and Security Act defines the directions of state energy policy, such as reduction of fuel consumption for operation of vehicles; supporting the development and implementation of electric motors for cars; increase in the biofuels production; measures focusing on electric energy saving; energy saving in buildings and industry; acceleration of relevant researches and their implementation (solar, geothermal, marine hydrokinetic energy, as well as energy storage and transportation); reduction of carbon emissions and carbon dioxide capture; improving the energy policy (targeted national media campaign, arrangements for the deployment of renewable energy sources, strengthening ties with Congress in the target issues, etc.); implementation of international energy efficiency programs; the issues concerning infrastructure of energy resources transportation; creation of green jobs; programs for small business and other initiatives aimed at enhancing the energy independence and security of the country's domestic market.

American Recovery and Reinvestment Act, being a response to the global financial and economic crisis that began in 2008, by its scope covers almost all the important spheres of the country, including energy issues, and foresees the following measures: additional funding for energy efficiency programs and case studies of green energy, upgrading for electricity transmission networks, the implementation of new technologies in the energy sector, etc.

It is necessary to focus attention on the comprehensiveness of the implementation of the proposed legislatively approved measures, because each of the measure is in fact a kind of action plan and necessarily involves a number of elements, in particular, the formation of a clear vision of the implementation of a particular measure; new (improved) state standards; grants to conduct targeted scientific research; tools to influence both producer and consumer of the given product; the variable financial-economic levers to support the implementation of certain activities, etc.

4. Discussion

The elimination of the existing problems in the fuel and energy complex of any country requires the development of balanced and effective policy to ensure energy security in the frameworks of the concept of protecting national interests, which should cover the following issues:

- developing and implementing a transparent and effective legal framework for the functioning of all energy sectors, providing management, coordination and monitoring the activities of power systems, nuclear energy, and natural monopolies;
- providing warranty and control by state executive bodies and local authorities with respect to reliable energy supply to all economy sectors and the population to the fullest extent;
- creating economic conditions for the supply of energy resources to domestic and foreign markets;
- ensuring effective management of strategic reserves of energy resources that stipulates diversification of supply of energy sources, preventing irrational use of energy resources, coordinating the rate of consumption of exhaustible resources with the pace of development of

renewable energy sources, carrying out quality control and ecological safety analysis of mineral deposits in accordance with legislative requirements and international standards;

- implementing investment policy in national energy sector, aimed at modernizing outdated technological base of the fuel and energy sector, extending the infrastructure of scientific, engineering, and technical support, and maintaining complex equipment of the energy industry;
- establishing technical rules, developing regulations, safety standards, and ensuring the efficiency of power assets and installations, as well as elaborating a mechanism for state supervision of their observance.

Thus, the inability of the fuel and energy sector to meet the needs of national economy industries and population for energy, as well as the accumulation of problems in the energy sector can undermine energy security and worsen social stability in Kazakhstan.

Today Kazakhstan has all the prerequisites to achieve a higher level of energy security as compared to the current situation. This requires the systematic and coordinated actions at all levels of governance within the framework of a balanced state energy policy.

At the same time, improving the state regulation of energy as one of the basic components of the national economy is extremely important in terms of protecting of national interests. Public regulation is the same as public administration, since it is regulative in nature. This is expressed in the presence of control function, which is filled with organizational content. Public regulation suggests several options for future activities of controlled objects, providing at the same time the possibility of their effective operation. Public regulation is aimed at:

- satisfying public needs and interests;
- organizing joint activities and work of people;
- implementing the provisions of the Constitution of Kazakhstan, as well as legislative and subordinate regulatory legal acts;
- implementing the basic tasks of the state aimed at protecting the interests of the whole society, providing public goods, maintaining order, and performing other common social problems.

In market conditions, the public regulation of energy sector is a system of typical measures of legislative, executive, and controlling character.

Improvement of public regulation can occur in two main directions. The first one is improving the organizational structure and functional content of the public regulatory authority for energy. The second one is improvement of normative legal base of state regulation of energy. These two directions help to balance the interests of producers and suppliers of fuel and energy resources, their consumers, and the state.

Public regulation in the energy sector needs improvement in each of the components of the fuel and energy sector, in particular, in electric-power industry, nuclear power engineering, oil and gas sector, heat power engineering, as well as renewable and alternative energy sources. The public regulation in each of these components has its own meaning, methods, and targets of the impact. In this regard, to effectively implement state energy policy and improve social interactions in the energy sector, as well as to ensure state's energy security, it is necessary to develop the Concept for perfection of state regulation of power industry, which should become the basis for consistent and systematic improvement of the public regulation of energy industry in Kazakhstan, and at the same time become an important link in ensuring the energy security of the country.

5. Conclusion

Energy security is one of the most important challenges, the solution of which will ensure sustainable development of Kazakhstan economy. The main directions of this problem are improving energy efficiency, ensuring environmental protection, and social stability.

Summarizing the possibilities of the use of US experience in this field, it is necessary to make conclusion that the US has its own unique approaches to national security in the energy sector, whose key feature is their comprehensive nature. At the same time, in fact, the process of ensuring the national security in the energy sector is implemented through the prism of the strategic vision of development prospects of national energy systems, which are associated with an increase in the economy's energy efficiency and the use of renewable energy sources. This should be achieved through enhancement of targeted scientific research. In addition, the USA is trying to ensure the sustainability and continuity in supply of extractive energy resources, diversification of their sources, as well as the stability of the global energy market in general.

Effective implementation of the state energy policy and improving social interactions in the energy sector, as well as ensuring state energy security should be based on the Concept of improving the public regulation of energy, which should play an important role in the country's economy.

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