

# PUBLIC-PRIVATE PARTNERSHIP MANAGEMENT STRATEGY IN THE ENERGY SECTOR: CASE OF THE REPUBLIC OF KAZAKHSTAN

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## ABSTRACT

*The high level of investment required for the development of the country's infrastructure cannot be financed solely from the state budget. Therefore, attracting private investment is the most important task for public authorities. The mechanism of public-private partnership is one of the potentially effective mechanisms for attracting private investment, which provides a rational price-quality ratio for the bureaucratic elite and potential investors. The purpose of this study is to identify obstacles to attracting investment in the development of the electric power industry in countries with a high level of influence of the bureaucratic elite. The results of the study allowed identifying the main barriers and determining priority areas of work to increase the investment attractiveness of the electric power sector.*

**Keywords:** Investment, Cooperation, Infrastructure Projects, Energy Sector, Government Guarantees.

## INTRODUCTION

Energy is one of the largest sectors for investment. Thus, the share of the energy sector in the total capital expenditures on new FDI projects in developing countries for 2015-2019 is on average 26.9 (UNCTAD, 2020). However, the cost of the announced projects increased by about 85% compared to the average for the previous five-year period (2010-2014).

The share of investments in the electricity sector at the global level is 46% of the total investment in the global energy industry (IEA, 2020). It amounted to only 12.9% in the countries of the Eurasian region at the end of 2019. At the same time, there is a decrease in the volume of investments in the electric power industry by 1.34% and 9.5%, respectively both at the global level and in the Eurasian region. (IEA, 2019).

The Republic of Kazakhstan, which has rich energy resources, including coal, oil, and natural gas reserves. However, Kazakhstan is still an importer of electricity, mainly from Russia. Thus, in 2019, electricity imports in Kazakhstan increased by 101.4 million kWh, or by 7.7%, compared to 2018 (Samruk-Energo JSC, 2019). One of the main reasons for the country's energy imbalance is the extremely high ratio of energy consumption to GDP. Thus, at the end of 2019, the energy intensity of Kazakhstan's GDP was 0.11 toe/per thousand US dollars in 2015 prices. For

example, this indicator in Great Britain is at the level of 0.059 toe/thous. US dollars, in Germany – 0.071, in Japan – 0.079, in India – 0.089 toe/thous US dollars (Enerdata, 2019).

The high level of physical wear and tear of generating capacities and power transmission lines of Kazakhstan leads to an increase in electricity losses in the networks, increased accidents, and an unstable supply of electricity to the population. This goal can be achieved through accelerated modernization and expansion of electric power industry facilities. Nevertheless, there are not enough investment resources to carry out structural changes due to the restraining growth of tariffs, limited budget financing, and the difficulty of attracting long-term financing from credit institutions and foreign investors.

On average, over the past decade in Kazakhstan, only about 3% of all private sector investments go to the energy sector, and this share has declined even more over the past few years. Thus, according to the Statistics Committee of the Republic of Kazakhstan, at the end of 2019, 1,1049.8 billion tenge of private investment were attracted to the country's economy, including own and borrowed funds of enterprises and foreign investment. In this case, the total volume of investments attracted in the sector of production, transmission, and distribution of electricity amounted to about 326.5 billion tenge.

The purpose of this study is to identify the main barriers to attracting investment in the development of the electric power industry using public-private partnership (PPP) mechanisms in countries with a high level of influence of the bureaucratic elite.

## LITERATURE REVIEW

Two decades ago, the energy sector in many countries was vertically integrated and owned primarily by the state. Vertically integrated companies controlled the production, transmission, distribution, and supply of electricity to end-users (Bogdanov et al., 2021).

However, recently, the electric power industry in several countries has been undergoing a process of transformational structural changes aimed at overcoming the inefficiencies identified within vertically integrated structures (Cambini et al., 2020). The pace and scope of market reforms differ in different regions due to the degree of bureaucratization of the state system and differences in institutional and environmental contexts (Dertinger & Hirth, 2020).

Studies show that bureaucracy is one of the constraints on modernization and attracting investment in the economy of many developing countries (Korolyova & Bezglasnaya, 2012; Sharipov & Mute, 2012; Zheng & Xiao, 2020). For example, authors reveal the vested interests of bureaucrats in the targeted distribution of state support (Barseghyan & Coate, 2014; Chen, 2017; Enikolopov, 2014), the presence of political opportunities for companies to lobby their interests (Choi et al., 2020; Dzhumashev, 2014), and questions of the influence of the bureaucratic elite on the results of contracting (Provost, 2011; Aunphattanasilp, 2018; Boland & Godsell, 2021), explore new prospects for state pressure on the energy infrastructure (Geall et al., 2018), etc.

Over the past two decades, the problems of attracting investment in the energy industry have been the subject of special attention of researchers and discussions among the expert community (Li et al., 2020; Mahbub & Jongwanich, 2019).

Despite the extensive literature on Foreign Direct Investment (FDI) in other sectors, the problems of attracting investment in natural monopoly industries, which can include the electric power industry, are limited either to developed economies or large developing economies, such as China or India (Sirin, 2017).

Experts note that investments in the energy sector in the medium/long term are risky due to the uncertainty that exists in this sector (Cunico et al., 2017). Research shows that foreign energy investors face significant corruption risks in Central Asian countries (Junxia, 2019).

Many researchers attribute the high capital intensity of most energy infrastructure projects, high initial investment costs, and the need for long-term financing to the specific features of investments in the electric power industry (Cruz & Marques, 2013).

However, the public finances of governments and international organizations are not able to meet the global needs of the electricity infrastructure. The scientific literature substantiates the need to attract private capital and form PPPs as one of the main tools for attracting private investment in the development of the electric power industry (Chernov & Rozhkova, 2018).

Although much of the existing analytical literature covers private sector participation in PPP projects, most of it focuses on projects in high and middle-income countries where the vast majority of PPPs in the energy sector have been developed. However, the issues of attracting private investment in the electric power industry within the framework of PPP in countries with a high level of influence of bureaucratic elites, such as Kazakhstan, are not sufficiently studied.

This study hypothesizes that the influence of the political decisions of the bureaucratic elite on the development of PPPs can pose a serious problem for developers seeking funding and is a powerful deterrent to private investment in the electric power industry.

## METHODS

The necessary information was collected at the initial stage. Internet search systems Google and Yandex were used as the main tools for finding the necessary information. Databases of scientific periodicals Scopus, Science Open, and CORE were used.

A quantitative analysis of the collected statistical data was carried out at the second stage of the study, using empirical methods of description and comparison. The results of this analysis allowed assessing the current state and identifying trends in the development of the electric power industry in Kazakhstan.

The next stage of the study included a thematic analysis of the problems of attracting investments in the Kazakh electric power industry. At this stage, qualitative methods were used to study the data collected from interviews with experts.

The expert survey was conducted using an online data collection tool from September to October 2020. The sample of respondents was carried out from among 250 active electric power companies included in the business register of Kazakhstan (the heads of private and public companies operating in the electricity sector). A questionnaire was developed, which included free-response questions about the trends in the investment activity of the respondents in 2019, the main sources and barriers to attracting investment in their companies, the administrative barriers faced by their enterprise, the influence of government bodies on their investment activity, as well as the opinions of respondents about the most promising sources of financing for investment projects. One hundred and twelve respondents followed the link and completed the survey. Data collection, processing, and analysis were carried out using the CAWI software.

## RESULTS

Following the program of development of the Kazakh electric power industry, from 2020 to 2030, the need for investment in the electric power industry is estimated at 8.3 trillion tenge

at 2011 prices (Resolution of the Government of the Republic of Kazakhstan, 2014). According to the results of the expert survey, the main factors of demand for investments in the Kazakh electric power industry are the physical aging and wear of generating capacities and power transmission lines (86.6%), the growth of electricity consumption (83.9%), and high electricity losses in the REC networks (78.6%).

The energy system of Kazakhstan, inherited from the Soviet Union, is characterized by a high degree of depreciation of fixed assets. According to the data of the UES system operator, the technical condition of the overhead line of the NES RK is characterized by significant wear: for 2018, the length of the overhead line with a voltage of 110-1,150 kV, which have operated for more than 30 years, is 75% of the total length (KEGOC JSC, 2018).

The construction of new power plants, the modernization, and the renovation of transmission and distribution networks are priorities for the government and require a significant investment of financial resources.

Currently, 64.3% of enterprises participating in the survey are implementing investment programs for the modernization and construction of energy infrastructure facilities. Therein, 26.8% of respondents noted that the volume of the investment program of their enterprises was revised downwards in 2019.

The vast majority of experts (79.2%) noted that the main sources of investment are the own funds of the subjects of the electricity market and budget funds.

Funding from the regional budget is allocated for the modernization of electric networks to state-owned enterprises. Considering that the vast majority of power transmission lines are privately owned or in trust, only 8.3% of the projects of private power transmission organizations are financed from the budget.

According to 79% of experts, the Kazakh energy sector is under the strict influence of the state on tariff regulation. That is, the state directly controls the prices of electricity for consumers (individuals and legal entities).

Since January 1, 2019, the policy of "marginal tariffs" has been replaced by the model of a Single buyer with the functioning of the capacity market. This mechanism involves the establishment of a single marginal tariff for the service for maintaining the availability of electric power, and it will also be possible to conclude an individual investment agreement and receive an individual tariff for both the entire capacity and a certain part of it. Tariff decisions are significantly influenced by social and political issues. The tariff policy, focused only on the consumer, allowed maintaining the prices of goods and services of the electric power industry at a socially significant level for many years.

Thus, against the background of rising prices for the main components of the electricity tariff (fuel, rail transportation, the cost of railway rolling stock, transit of electricity through the networks of KEGOC JSC, etc.), in November 2018, the Ministry of Energy of the Republic of Kazakhstan decided to reduce the electricity tariff in all regions and energy companies. In some cases, the level of reduction reached 25%.

Energy producers are forced to attract bank loans and funds from private investors to pay off the imbalance between the costs required for energy production and the existing tariffs. However, more than 80% of experts noted that their opportunities to attract bank financing are almost exhausted.

Also, the tariff excluded a 12% rate of return energy in December 2018 without any reason or explanation by order of the Minister of Energy of Kazakhstan. Thus, in 2019, the zero profitability of electricity generation was established at the legislative level.

Such a policy violates the balance of interests of consumers and the needs of the energy industry, significantly reduced the investment attractiveness of the sector, and led to a shortage of liquidity of energy companies. This order became invalid in May 2020 and currently, the fixed profit of energy companies is calculated considering the 11.79% rate of return.

Another equally important barrier to attracting private investment in the electricity sector, according to experts, is the presence of administrative barriers and corruption.

The experts noted the complexity of the procedures for obtaining the necessary licenses, permits, approvals, state support funds (72.3%), as well as the number of necessary permits for conducting current activities (65.2%) as the most serious administrative barriers to investment in the electricity sector.

However, 71% of respondents believe that the existing administrative barriers can be overcome without significant costs.

The results of the study show that respondents have different perceptions of the usefulness of the activities of state control bodies to attract investment in the infrastructure of the electric power industry. Thus, 23.2% of respondents evaluated the overall impact of state control (supervision) positively and expressed the opinion that regulatory authorities contribute to the investment activity of utilities and reduce the risks associated with the implementation of infrastructure projects. About 17% of respondents assess the activities of state control bodies negatively. The majority of respondents (47.3%) adhere to a neutral assessment of the influence of regulatory authorities.

Despite the neutral assessment of the activities of the authorities in the field of attracting investment, the majority of the surveyed representatives of the electricity sector (71.4%) noted that administrative barriers are being reduced and some barriers have been eliminated. To ensure large-scale changes in the Kazakh energy sector, the vast majority of experts note that it is necessary to ensure the inflow of capital from the private sector (75%).

In this regard, the PPP is considered as the main tool for attracting business to the development of the energy sector. In turn, the PPP mechanism is practically not used in such a key area as energy. According to the statistics of the project database of the Kazakhstan PPP Center in the field of *“Energy and Housing and Communal Services”*, only 137 projects are currently registered, of which 36 projects are related to energy. The total cost of PPP projects in the energy sector is estimated at 355.76 billion tenge.

Most of these projects are aimed at improving energy efficiency by upgrading street lighting systems (4) and lighting of state-owned enterprises (29). There are no projects in the renewable energy sector in the register.

Thus, the development of the electric power sector of Kazakhstan is largely dependent on investments in modernization and attracting investments in the development of the electric power infrastructure of Kazakhstan. The investment attractiveness of the industry for private investors remains low due to the imperfection of the tariff policy, as well as significant administrative barriers and corruption in public authorities.

## DISCUSSION

Attracting investment largely depends on the effectiveness of public administration. According to the World Bank's global study, the effectiveness of public administration WGI (World Bank, 2020) and the quality of government regulation are at an average level. At the end of 2019, they were 0.12 and 0.14, respectively.

Kazakhstan is a state with a bureaucratic system of public administration. Thus, according to the World Competitiveness Management Development Institute, the indicator of bureaucracy as one of the factors of the institutional management structure of Kazakhstan is 0.39. This characterizes the public administration system with a fairly high level of influence of the bureaucratic elite.

Despite the fairly high level of influence of the bureaucratic elite in the country as a whole, its influence on the business and investment activity of energy enterprises in the power industry of Kazakhstan cannot be called positive and effective. Thus, according to the World Bank (2020), since 2006, only three projects in the Kazakh energy sector have reached financial closure, including two PPP projects in the field of renewable energy (the Baikonur Solar Power Plant and the Nomad solar installation project). Thus, several failed PPPs in the electricity sector of Kazakhstan demonstrate the challenges facing the country's decision-making bodies.

While India and China have implemented 362 and 331 PPP projects in the energy sector, respectively. India and China are among the largest electricity markets in the world, comparable to the power systems of the European Union, the Russian Federation, and the United States. India and China have implemented major energy security reforms and gained a wealth of experience in implementing PPP projects in the electricity sector in recent years. This provides an opportunity for Kazakhstan to study political practice, establish a mutual exchange of knowledge, training, and cooperation in this area.

## CONCLUSION

Thus, the development of PPP in the energy sector largely depends on the political regimes and decisions of the bureaucratic elite, which should be aimed at increasing the attractiveness of investment projects in the electric power industry and avoiding the emergence of additional barriers to attracting private investors.

The most important problem facing the development of PPP in the electric power industry of countries with a bureaucratic management structure is the need to increase the knowledge and experience of government officials in the formation and implementation of project agreements with private investors.

Since the support at a high level is important, it is necessary to eliminate any negative attitude towards private sector participation in investment projects in the electricity sector.

A transparent and credible competitive process for selecting a private partner will be crucial for attracting private investment in the electricity sector. Public authorities shall guarantee a minimum level of legal security, implement predictable rules, and define strategic partnership objectives to inspire confidence in the longevity and continuity of the PPP policy regime. Interagency coordination and commitment, as well as minimizing the political influence of bureaucratic elites in the selection and development of PPP-based projects in the electric power industry, will help maximize the appetite of private investors.

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