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OPTIMIZATION OF FINANCING SOURCES FOR RUSSIAN ENERGY CORPORATIONS IN THE MODERN ECONOMY

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Abstract

Modern Russian energy companies present a significant demand for financial resources to finance the development of the industry. The article focuses on the investment activities of energy companies. Due to the importance of this industry in the Russian economy, as well as due to the state of the industry itself, the investment activity of companies continues to grow. The article analyzes the financing system of energy companies in the industry, which developed by 2016 and its changes in the current period. The purpose of the article is to show how the financing system of energy companies is changing. In the paper, the features of the financing structure associated with the liberalization of the industry are investigated, and its changes in the current period are forecasted. The article analyzed the financing tools of energy companies: income from the placement of shares, bank loans received, budget subsidies and investments and bond loans. In recent years, in the non-profit and commercial energy sector, due to objective conditions, there have been changes in financing. The article focuses on the change in the ratio between loans and loans in favor of bond loans received by energy companies. A more active use of budget loans and green bonds in financing energy companies is proposed.

Keywords: Energy companies, investment projects, financing, budget programs, bonds.

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1. Introduction

A study of the development of various areas of the energy industry and its segments is relevant in theory and practice. Theoretical studies are devoted to the analysis of various aspects of the industry: pricing, the response of financial markets, the development of concepts, models, (Zhang, 2018), models (Creti & Nguyen, 2015), investment conditions (Cunico, Flores, & Vecchietti, 2017), problems arising both in developed ones, so in emerging economies.

Modern electric power industry determines the level of development of the national economy and its degree of competitiveness in the world market. Demand for electricity is objectively growing on the part of the population and companies of all types of activities. These conditions increase the requirements of society to the level of technical equipment of companies in accordance with the requirements of the modern economy.

The industry itself in Russia is in a difficult position: the level of its technical equipment does not always meet international standards, the energy intensity of industrial production exceeds the world level several times. Significant investments are required in order to increase the competitiveness of the industry. Consequently, the demand for financial resources that will be attracted for various investment projects is increasing.

In the previous decade, the financing system of energy companies was shaped by the processes of liberalization of the energy market, corporatization of major electricity producers, the financial crisis of 2007, etc. But the amount of financial resources that were collected by energy companies was not enough to fully finance investment projects.

One of the conditions for increasing the attractiveness of the industry for strategic investors is the restructuring of the prevailing proportions between the main sources of financing through the development of financial instruments whose potential was not used in the previous period. The Russian power industry is represented in various areas: traditional energy, nuclear energy and alternative energy. The largest representatives of the electric power industry: JSC Concern Rosenergoatom, PJSC RusHydro, JSC SO UES, PJSC FGC UES, PJSC Rosseti Group, PJSC RusHydro Group.

2. Problem Statement

The purpose of this study is to analyse changes in the financing of energy companies over the past three years. These changes are caused by a change in the relationship between energy companies and public law entities. We must also explore changes between traditional sources of financing. In addition to modern sources of financing, it is necessary to determine what other financial instruments energy companies can use.

3. Research Questions

The study identified the following aspects of change in the structure of financing for energy companies:

- reasons for the growth of energy companies' demand for financial resources of potential investors;

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- changes that occur in the financing of investment programs in the energy sector by the state and municipalities;

- the existing structure of external financing of investment projects and trends in its change;

- financial instruments that are not yet used in financing investment projects of energy companies or are rarely used.

4. Purpose of the Study

This study is aimed at:

- conducting a comprehensive analysis of the financing structure of investment projects of energy companies;

- analysis of changes in the structure and forms and scale of budget financing of investment projects of energy companies;

- study of trends in the sector of commercial financing of investment projects of energy companies;

- identification of additional financial instruments that can be used to finance investment projects of energy companies.

5. Research Methods

Methods of logical and statistic analysis, synthesis, comparison and generalization were used in the course of the research. In the course of the study, we formulated three hypotheses. The first hypothesis. The status of “natural monopoly” implies that such a form of organization of the energy company should be chosen, the financial capabilities of which will retain the achieved scale and increase electricity production. This is the form of public joint stock company. It allowed companies to simultaneously obtain additional financial resources through the placement of shares, to leave access to budget funds and financial market resources.

The second hypothesis. The economic, technological and social importance of the energy sector does not allow the public sector to abandon financial relations with energy companies. Zones of financial influence in modern conditions have moved from level to regional and local level. This causes both financial and investment problems for the energy company. The best way to resolve all contradictions is through various forms of public-private partnerships.

The third hypothesis. In the private sector, energy companies choose between self-financing and external financing. Energy companies in external financing went through the stage of recruiting financial resources through the initial offering of shares of denationalized companies, then the stage of attracting bank loans, in modern conditions, the third stage begins - bond financing.

The hypotheses put forward were confirmed by analyzing the actual and statistical data related to the financing mechanism of energy companies. The following models were proposed and analyzed: two-sector financing of energy companies; self-financing and attracted financing; internal and external financing. The data obtained were summarized, which allowed us to conclude that the general mechanism for financing energy companies in modern conditions is more complicated. In the article, we used the

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elements of comparative analysis to assess the changes that have occurred in the budget financing of the energy sector. The article discusses data on the largest energy companies in Russia, budgets of public law entities, three federal districts. The study is phased in nature and covers the period from the beginning of the 2000s to 2018.

6. Findings

As a result of the study, we have made certain conclusions in accordance with the objectives of the study. Modern electric power industry determines the level of development of the national economy and its degree of competitiveness in the world market. Demand for electricity is objectively growing on the part of the population and companies of all types of activities. Ministry of Energy of Russia predicts that the growth rate of electricity consumption will grow in Russia until 2023 at the level of 1.0% per year (Ernst & Young, 2018).

On the other hand, the level of technical equipment of the Russian energy industry lags behind world standards, the material elements of non-current assets are subject to active moral and material depreciation, the energy intensity of industrial production exceeds the world level several times. Thus, the electric power industry represents an object for promising investments. Investment projects of the main players in the energy market are quite large (Table 01). The main goal of modern investments in energy efficiency in Russia (as in the world) is to ensure the stability of the energy system (International Energy Agency, 2019).

Table 01. Financing of investment programs in 2018 (billion rubles)

Company	Volumes of investments
Rosenergoatom Concern JSC	167.7
PJSC RusHydro	30.6
Group of Companies Rosseti	153.8
Other energy companies	187.9
Total	540.0

Source: authors according to the data of the Ministry of Energy of the Russian Federation, (2018)

The industry's need for financial resources is estimated from 2017 to 2023 at 2,3 trillion. rubles. Of these, 74% of investments will be in generating capacity, and the remaining 26% – for the development of electric networks. But this forecast is subject to adjustment, as already in 2018 it was predicted that only 1.5 trillion will be needed to upgrade the capacities of thermal power plants (fuel and energy stations) until 2035 (Ministry of Energy of the Russian, 2018).

At the same time, the industry lacks external financial resources. There are several reasons: foreign economic sanctions, unstable development of the Russian economy, high risks for investors, and the existing structure of financing investment projects.

For the period 2011-2016, Russia has developed a new system of external financing of energy. Its formation was associated with the liberalization of the energy resource market, the denationalization of

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former monopolies, and, on the other hand, the creation of the UES (Unified Energy System) in the country. As a result, the investment component of the energy market was divided into two parts. In the first part, due to the public importance of the industry, the state and municipalities participate in financing the development of the industry and investment projects of energy companies. The second part includes non-state investors. A competitive environment was formed in it, investors of various statuses and levels appeared, all possible financial instruments appeared, risks were taken into account, and the cost of capital was estimated.

Two parts were also allocated in the structure of budget financing of investment projects: financing of energy companies in the amount of their participation in budget programs, and the use of budget funds to finance projects in the form of public-private partnerships. Immediately the problem arose of coordinating the investment plans of energy companies with the needs of the constituent entities of the Russian Federation and (or) municipalities (Malyshev & Kashurnikov, 2015).

The main form of interaction between public partners and energy companies has become a public-private partnership. The main forms that were used in the energy sector: concession agreements, leases, PPP agreements. The most widespread PPP was in those regions where the activities of major energy companies are concentrated: the Volga Federal District, the Siberian Federal District and the Central Federal District (Petyukov, 2017).

The financial support of the industry, as shown by the period of the 2000s, placed a heavy burden on the federal budget. Due to the decentralization of energy companies, their financing fell on the budgets of the constituent entities of the Russian Federation and local budgets. The volume of financing from the federal budget decreased. For example, in 2017, in terms of budget programs, energy companies were allocated 30.9 billion rubles from the federal budget, which makes up only 5% of the total funding (Table 02).

Table 02. Financing energy companies from the federal budget in 2018

Company	**Federal budget funds**
Rosenergoatom Concern JSC	22.7
PJSC RusHydro	5.7
Rosseti Group of Companies	2.4
Other energy companies	0.1
Total	30.9

Source: authors according to the data of the Ministry of Energy of the Russian Federation (2018)

The trend in financial support at the expense of the local budget, then the regional budget, and only last but not least the federal budget of investment projects of energy companies will continue in this decade. Local budgets are most interested in a financial partnership with energy companies, as they provide energy; create new jobs for the local population and other economic and non-economic benefits. It becomes especially important for monotowns. (Pulyaeva, Gibadullin, Kharitonova, & Kharitonova, 2019).

The structure of external financing of investment projects of energy companies evolved from 2001 to 2011. As a result of the reforms, the main energy companies received the legal form of a joint stock

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company. During this period, they were actively involved in IPOs. The growth of income received there falls on 2011 and 2013. After 2014, companies do not resort to IPO and SPO. A more accessible form of external financing for them is bank loans. But since 2016, energy companies have become more active in taking bank loans. But after 2017, the targeted use of bank loans has changed. Basically, they are taken either to refinance debt or to finance working capital. Until 2017, companies almost did not use corporate bonds. By 2017, energy companies had a traditional structure of external financing (located by volume): income from the placement of shares – bank loans – bond loans, according to the AKRA rating agency, in the last decade the ratio between these incomes is 60/37/3.

Over the past two years, the situation began to change, in the Russian economy there has been an increase in bond financing. Bonds and energy corporations began to issue more actively. Energy company bonds held 5% of the market in 2018. Their main buyers were banks, non-banking financial companies, they accounted for more than half of the bonds placed. Part of the bonds was purchased by non-residents. The most active issuer is PJSC FGC UES, which issued bonds for $ 5 billion. In 2018, energy companies diversified their bond currency. PJSC RusHydro issued bonds in RMB for ¥ 1.5 billion with a yield of 6,25%. Demand for these bonds exceeded supply by ¥ 1.0 billion. For foreign investors, the energy industry in Russia is very attractive, as well as other countries, despite the risks (Conrad & Kostka, 2017). PJSC MOESK in March 2019 issued bonds for a period of up to 2025 in the amount of 5 billion rubles with a variable coupon of 8.65%. Energy companies have found a long-term source of financing for investment projects, and the ratio between loans and bonded loans is changing in favor of loans.

Modern energy companies, especially those that make up the industry's base, operate cost-effectively. This is the reason for their rather passive behavior in the market of external financial resources. For example, PJSC Inter RAO received 3.3 billion rubles for the 1st quarter of 2019, which is 3.3 times more than in the first quarter of 2018. The net profit based on the results of the financial and economic activities of Rosenergoatom for 2018 amounted to 39,687 million rubles, for 2017 -45,981 million rubles. Net profit decrease by 6,294 million rubles. caused by an increase in other expenses, and in 2016 it amounted to only 10 605.3 million rubles (Table 03).

Table 03. The dynamics of net profit of energy companies in Russia (billion rubles)

Company	**2018**	**2017**
PJSC (in accordance with IFRS)	121,3	97,6
RusHydro	31 837	24 774
Rosenergoatom	39 687	45 981

Source: authors based on the annual financial statements of considered companies.

In the future, the presence of a significant amount of profit, relative independence from loans provides the conditions for stable development by energy companies, and gives them the opportunity to make investments with an environmental effect, to participate in creating a green economy (Shalneva, Malofeev, & Zinchenko, 2019).

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7. Conclusion

The current financing structure for the energy industry is changing. These changes are associated with increased profits of major energy companies. Increased profits allow energy companies to invest in new technologies that provide energy saving and increase electricity production; reduce dependence on budget and external financing. The federal budget is spending on financing investment projects in the electric power industry. The participation of energy companies in regional budget programs is increasing. The coordination of the financial interests of energy companies and regional (municipal) authorities is based on public-private partnerships. Shifts in external financing are taking place. They are caused by the issuance of corporate bonds by energy companies. The share of bank loans in loan financing is reduced.

References

Conrad, B., & Kostka, G. (2017). Chinese investments in Europe's energy sector: Risks and opportunities? *Energy Policy*, *101*, 644-648. https://doi.org/10.1016/j.enpol.2016.12.016

Creti, A., & Nguyen, D. K. (2015). Energy markets' financialization, risk spillovers, and pricing models. *Energy Policy*, *82*(1), 260-263. https://doi.org/ 10.1016/j.enpol.2015.02.007

Cunico, M. L., Flores, J. R., & Vecchietti, A. (2017). Investment in the energy sector: An optimization model that contemplates several uncertain parameters. *Energy, 138*, 831-845. https://doi.org/ I10.1016/j.energy.2017.07.103

Ernst & Young (2018). Overview of the Russian energy industry. EY, 2018. Retrieved from: https://www.ey.com/Publication/vwLUAssets/EY-power-market-russia-2018/$File/EY-power-market-russia-2018.pdf Accessed: 14.10.19. [in Rus.].

International Energy Agency (2019). World Energy Investment 2019. Retrieved from: https://www.iea.org/wei2019/ Accessed: 14.10.2019.

Malyshev, E., & Kashurnikov, A. (2015). Financing of projects of development electrical power branch. *Bulletin of ZabSU, 5*(120), 110-118. [in Rus.].

Ministry of Energy of the Russian (2018). Federation Scheme and program for the development of the Unified Energy System of Russia for 2017-2023. Retrieved from: https://minenergo.gov.ru/node/11323 Accessed: 14.10.2019. [in Rus.].

Petyukov, S. E. (2017). Opportunities for financing investment projects in the electric power industry. *Innovations and Investments, 4*, 31-34. [in Rus.].

Pulyaeva, V. N., Gibadullin, A. A., Kharitonova, E. N., & Kharitonova, N. A. (2019). Problems and prospects of electric power enterprises in monotowns. In V. Mantulenko (Ed.), *Proceedings of the International Scientific Conference "Global Challenges and Prospects of the Modern Economic Development". The European Proceedings of Social & Behavioural Sciences*, *57* (pp.801-813). London: Future Academy. https://doi.org/10.15405/epsbs.2019.03.79

Shalneva, M. S., Malofeev, S. N., & Zinchenko, Yu. V. (2019). Sustainable finance as a way of transition of companies to green economy. In V. Mantulenko (Ed.), *Proceedings of the International Scientific Conference "Global Challenges and Prospects of the Modern Economic Development". The European Proceedings of Social & Behavioural Sciences*, *57* (pp.453-462). London: Future Academy. https://doi.org/10.15405/epsbs.2019.03.45

Zhang, D. (2018). Energy finance: Background, concept, and recent developments. *Emerging Markets Finance and Trade, 54*(8), 1687-1692. https://doi.org/10.1080/1540496x.2018.1466524