

**TIES 2020****International conference «Trends and innovations in economic studies»****CONCESSION MECHANISM FOR THE DEVELOPMENT OF  
INNOVATIVE ACTIVITIES OF ELECTRIC POWER  
ORGANIZATIONS**

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***Abstract***

The electrical power sector is a socially and strategically significant economic area which provides all sectors of the economy and the population with electric power resources. Currently, the industry is characterized by a high level of worn-out fixed assets and an ever-increasing technical and technological backlog. The innovative development path is crucial for the electric power industry. It ensures the use of alternative energy sources, improves quality and reliability of power supply. In order to move the country from the export economy to the resource-innovative one, the interaction between the government and private electric power companies is required. To solve existing problems, it is necessary to improve mechanisms and forms of state participation in financing innovative and investment projects in the electric power industry in order to ensure their attractiveness. The authors developed a concession mechanism based on public-private partnerships, contributing to innovative activities of electric power companies. The main purpose of the electric power company is to reduce costs by implementing innovative technologies and maximizing profit. The government aims to protect public interests of consumers. The article provides a diagram of the procedure for concluding a concession agreement for performing innovative activities in the electric power industry. It allows studying a competition procedure. The purpose of the concession mechanism is to achieve social and economic effects of investment and innovation processes in the electric power industry (improvement of quality of services, reduction of electricity tariffs, implementation of energy-efficient and resource-saving technologies, etc.).

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**Keywords:** Public-private partnership, concession agreement, innovation, electric power company.

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## 1. Introduction

The reform of the electric power industry and the development of market relations are accompanied by the revision of rules regulating energy systems and changes in requirements for the energy facilities.

The electric power industry is a service sector that provides consumers with required technical conditions and infrastructure facilities (Federal Law of March 26, 2003. No. 35-FZ, 2003).

ES-2035 reflecting global trends and internal conditions of Russia (climatic, resource, territorial, social, technological, environmental, humanitarian, etc.) aims to electrify the country in order to boost its economy, improve the efficiency of resource-innovative development and living standards of citizens. Quantitative development of the electric power industry as well as the qualitative structural and technological transformation of the industry and its segments is strategically important (Silvestre, Marques, & Gomes, 2018; Petyukov, 2015).

At the same time, approaches to industry funding are changing in order to ensure the reliable and safe electricity supply to consumers due to the liberalization of the energy market and the consolidation of the national electric power industry (Burganov & Yarullina, 2015; Petyukov, 2017).

## 2. Problem Statement

The electric power industry as the most important economic sector is crucial for all other sectors of the national economy and the population.

Currently, the electric power industry is experiencing a lot of problems: depreciation of equipment of electric networks and stations; obsolete technologies and equipment; poor development of new technologies; insufficient investment; the negative impact on the environment; an increase in electricity tariffs, which leads to a low level of consumer payments and a lack of working capital, etc. Thus, electric power companies have to be modernized and choose an innovative development path that ensures high quality of power supply, energy security in the production, transportation and consumption sectors, and the use of alternative energy sources (Petyukov, 2015).

## 3. Research Questions

It is advisable to conclude concession agreements based on public-private partnerships. They are special socially-oriented tools of the market economy, contributing to the effective (innovative) development of the industry (Airapetyan, 2009; Federal Law of July 13, 2015 No. 224-FZ, 2015; Opawole, Jagboro, Kajimo-Shakantu, & Olojede, 2019).

Concession models for attracting extra budgetary investment are widely used in 37 countries: the USA, France, Great Britain, Germany, Russia, the Czech Republic, Poland, Lithuania, etc. In the UK, out of 40 strategic infrastructure projects approved by the national Infrastructure Plan until 2020, 13 projects are being implemented at the expense of budget sources, 17 ones are being implemented using combined financial resources and 13 projects are being financed by private investors (Alklychev, 2019; Chernyakhovskaya & Korolkov, 2017).

The object of the study is financing of innovative projects in the electric power industry by the government and private investors.

The subject is financial mechanisms of interaction between private businesses and government agencies implementing innovative investment projects in the electric power industry.

#### 4. Purpose of the Study

The purpose of the article is to develop theoretical and methodological provisions and practical recommendations on the use of concession agreements based on public-private partnerships to finance innovative activities of electric power companies.

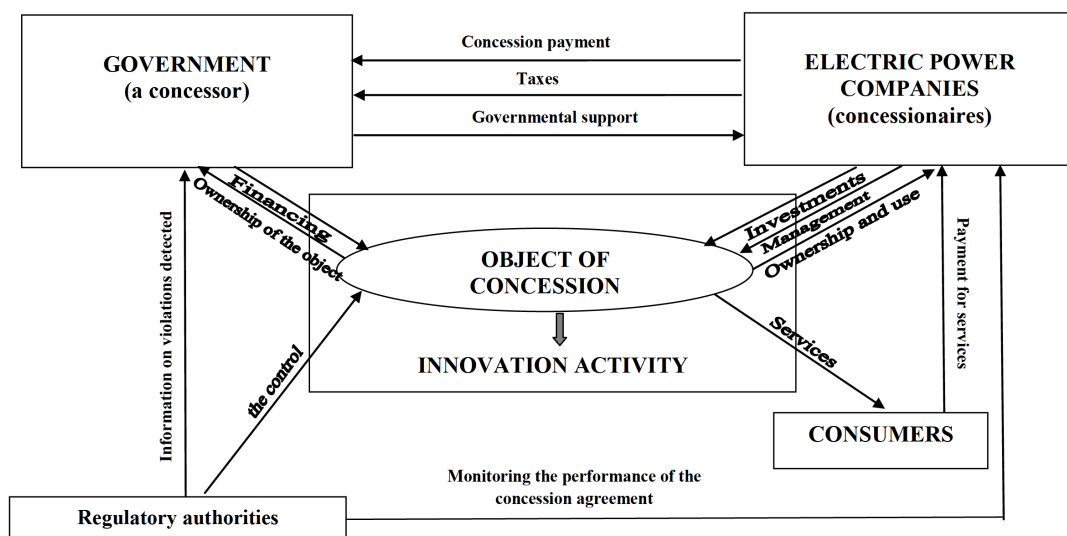
#### 5. Research Methods

The methodological basis of the study is works by domestic and foreign experts dealing with financing of innovative activities of electric power companies; legislative and regulatory acts of the Russian Federation; materials of scientific and practical conferences. General scientific methods were used (analysis, synthesis, description, principles and methods of long-term forecasting).

#### 6. Findings

##### 6.1. Concession mechanism for performing innovative activities by electric power companies

The author has developed a concession mechanism for performing innovative activities by electric power companies (Figure 01).



**Figure 01.** Scheme of the functioning of the concession mechanism for the development of innovative activities of electric power organizations

The effectiveness of innovative investment projects based on the concession mechanism depends on the coordination of actions of all participants in the investment process.

The subjects of this mechanism are as follows: electric power companies (concessionaires), the government (a concessor) (Bychkov, 2011; Malikova & Maksimova, 2017).

The object of the concession agreement is facilities for the production, transmission and distribution of electric energy and other facilities used for performing innovative activities in the electric power industry.

According to the concession mechanism, the electric power company shall create and / or reconstruct a facility (the property right to this facility belongs or will belong to government authorities), perform innovative activities using the object of the concession agreement. The government shall provide the right to own and use the object of the concession agreement.

In accordance with Article 3, paragraph 3 of the Federal Law-115 “On Concession Agreements”, reconstruction of the object involves its reorganization using new technologies, mechanization and automation of production, modernization and replacement of obsolete and worn-out equipment with new one, a change in the technological or functional purpose of the object or its individual parts, other measures aimed at improvement of its properties (Federal Law of July 21, 2005. No. 115-FZ, 2005).

Thus, the concession mechanism involves the transfer of the object to the temporary ownership and use of the concession facility for implementing innovative technologies in order to achieve the socio-economic effect.

Products and income received by the company as a result of innovative activities are the property of the company. In this case, the electric power company bears a risk of damage to property specified in the concession agreement and should insure the object (Zhukova, 2011).

Tariffs charged by the electric power company are regulated by the concession agreement and monitored by the authorized bodies.

The authors identify the main advantages of the concession agreement:

*for the government:*

- attracting investment from electric power companies, which reduced the financial burden on the government (Timchuk, Nikityuk, & Gorbachevskaya, 2019);
- replenishment of the budget due to tax deductions and commission payments;
- control by the authorized body;
- release of a significant part of budgetary funds aimed at restraining the growth of tariffs and financing other budget expenditures;

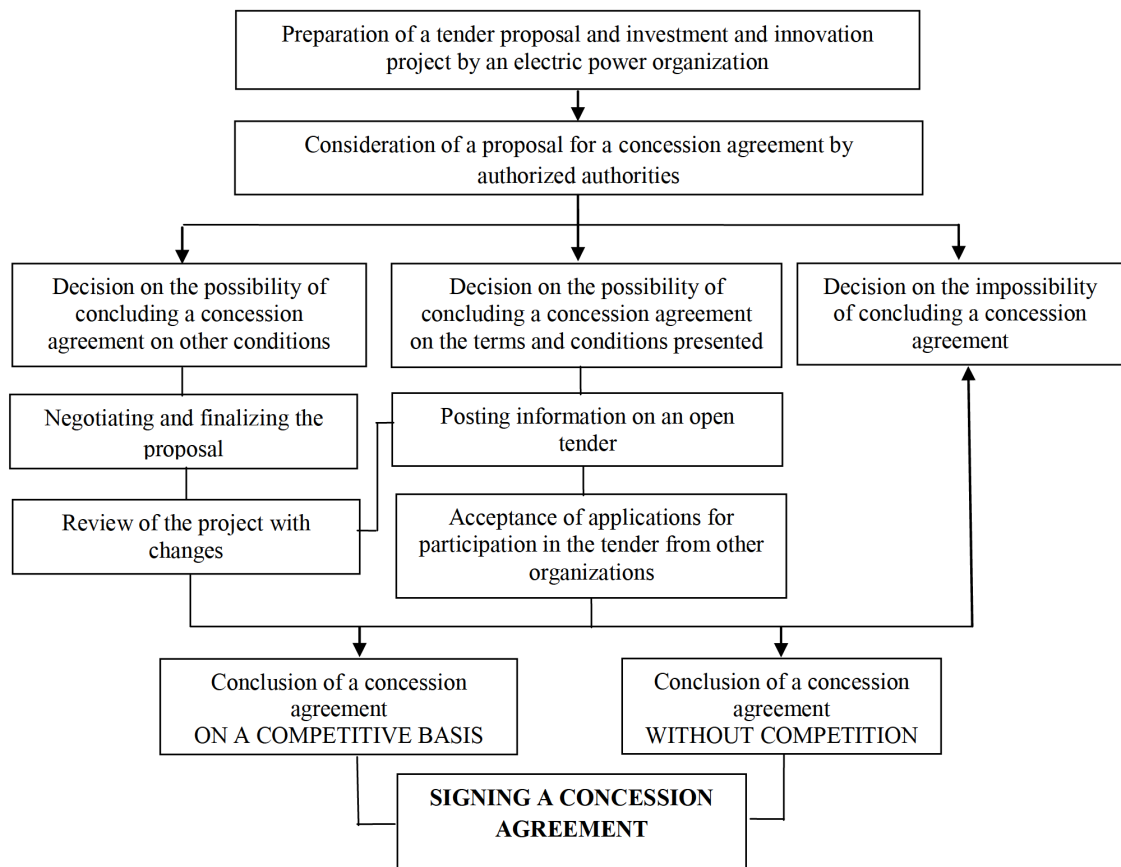
*for electric power companies:*

- the absence of expenses for the purchase of a concession facility, which allows the power company to invest in capital assets for performing innovative activities (Nikityuk & Timchuk, 2015);
- provision of quality services and tariff regulation for consumers of electric power resources;
- ensuring invariable tariff regulation parameters and receiving gross revenue in case of adoption of regulatory acts reducing tariffs;
- implementation of energy-efficient and resource-saving technologies for producing electricity;
- conclusion of a long-term concession agreement which allows the company to plan innovation activities.

Within the concession mechanism, on the basis of the program-targeted approach, the main way to increase profit of electric power companies is to increase the efficiency of economic activities and optimize business processes through innovative technologies, rather than increase prices for energy services.

## 6.2. Procedure for concluding a concession agreement

The author developed a scheme for organizing a competition procedure that includes three (Figure 02).



**Figure 02.** Procedure for concluding a concession agreement in the electric power industry

The concession agreement is concluded by electric power enterprises through open / closed tenders.

The first stage. The electric power organization submits a proposal and an innovation and investment project to the authorized body. Within thirty days, government authorities review the application and decide on the possibility of concluding a concession agreement on the proposed or other (amended) terms or the impossibility of concluding an agreement.

If the authorized body has made a preliminary decision on the possibility of concluding a concession agreement on other (amended) conditions, it shall conduct negotiations with the electric power company in order to discuss terms of the concession agreement. Based on the results of the negotiations, the company submits a revised project to the authorized body. The decision on approval / non-approval of the new version of the project is made by the authorized body.

If the authorized body decides to allow the company to take part in the tender, they create a tender commission, prepare tender documents and publish information on the open competition on the website [torgi.gov.ru](http://torgi.gov.ru).

The second phase. Within thirty business days, additional applications for the participation in the tender are accepted and registered. The company may change or withdraw its application before the deadline. If electric power companies submit less than two applications, the tender is invalid.

The third stage. Conclusion of a concession agreement.

In case of a tender failure, the authorized body may open the application and review it. If the application complies with tender documents and criteria, government authorities are entitled to conclude a concession agreement.

If two or more proposals participate in the competition, the winner is the organization that has proposed the best conditions. The authorized body holds negotiations with the winner. Then the concession agreement is signed. The decision is published on the official website.

The concession agreement may be concluded with the electric power company without a tender if the object is a facility that was transferred in accordance with the lease agreement.

The validity period of the concession agreement is established in the concession agreement taking into account the period of creation and / or reconstruction of the object of the concession agreement, the volume of investment, the payback period, the period for receiving gross revenue, and the period for fulfilling other obligations under the concession agreement. The extension of the concession agreement is carried out in agreement with the antimonopoly authority. In international practice, the length of the concession period is a life cycle of fixed assets.

The concession agreement is terminated upon the expiration of the concession agreement; by agreement of the parties; by the court decision; if the failure or improper fulfillment of obligations entailed harm to human life or health, or there is a threat to human health. In this case, the company is obliged to transfer the object of the concession agreement according to the transfer-acceptance act. The transfer of ownership is not a basis for changing or terminating the concession agreement.

## 7. Conclusion

As a financial tool, the concession mechanism is an optimal method which ensures a balance of interests of the government, electric power companies and consumers, consolidating their actions (John, Mahalingam, Deep, & Thillairajan, 2015).

Based on the results of the study, it was concluded that it is extremely important to develop investment tools for innovative activities in the electric power industry by expanding the interaction of private and public sectors (concession agreement). Thus, the mechanism of concession agreements contributes to the transformation of innovative processes of electric power companies, which allows reaching a new level of social and economic development and achieving the maximum efficiency.

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