## THE RELEVANCE OF ENERGY SERVICE CONTRACTS IN THE BUDGET SPHERE

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## ABSTRACT

The problematic aspects related to the implementation of energy saving policy in the budget sphere are examined in the article. The factors hindering the mass and effective implementation of energy-saving measures are highlighted in the article. Among these factors, there is the technical complexity of energy-saving projects, the presence of innovative and investment risks, problems with the financial provision of costs in the face of increasing debt burden in most public budgets. The article concludes that in these circumstances only the energy service contract is a tool that allows implementing energy-saving measures without the first participation of budgetary funds in financing and allows transferring the risks of making technically inefficient decisions directly to the investor. In the article, the authors substantiate the importance of the institutional development of energy services directly in the public sector and analyze the measures of the comprehensive plan to improve the energy efficiency of the economy of the Russian Federation aimed at expanding the scope of energy service contracts in the public sector.

**Keywords:** energy saving, budget expenditures for lighting, energy service contract, investment risks

#### **1. INTRODUCTION**

Energy saving is a national problem and a public interest. Effective use of energy resources allows:

- To reduce the energy intensity of the Russian economy and thereby increase its competitiveness;

 To reduce the negative anthropogenic impact on the environment;

 To implement a policy of resource saving in conditions of limited reserves of fuel and energy resources in the interests of both present and future generations;

 To reduce the negative impact of the fuel and energy complex on the health of citizens;

– To make a positive contribution to the system of maintaining energy security, which is one of the main directions for ensuring of the national security of our country in the economic sphere.

Also, energy saving should be considered as an urgent task in the context of optimization (economy) of state and municipal expenditures.

The law "On energy saving and energy efficiency and on improving energy efficiency..." sets for the authorities the task of reducing the cost of budgets for the provision of energy resources of state and municipal institutions [1]. Objects of the public sector are quite energy-intensive and according to the Ministry of economic development "energy costs for lighting and heating in the public sector can be reduced by almost a third" [2]. At the same time, the problem of energy saving in the public sector is not easily solved, due to the lack of real commercial interest of users in saving energy resources and the lack of motivation for the introduction of technologies that reduce energy consumption. The purpose of the article is the scientific justification of the relevance of the use of energy service tools in the implementation of energy saving tasks in the public sector.

# 2. SCIENTIFIC AND LEGAL MATERIALS AND METHODS

The authors used the following methods: general scientific (analysis, synthesis, methods of systemic and functional approach) and private-scientific (formal-legal, statistical, comparative-legal).

## 3. RESULTS

In April 2018 the government of the Russian Federation approved a Comprehensive plan of measures to improve the energy efficiency of the economy [3], according to which the budget system in 2030 should achieve an annual energy saving of 10.3 billion roubles, and for thermal energy in the amount of 22.72 billion roubles (in prices comparable to the prices of 2016). Thus, in the budgetary sphere, the State has vast reserves of management of effective consumption of energy resources. However, in this area, the issue of the possibility of financing energy-saving measures is most acute since the state of public finances does not allow most municipal and regional budgets to invest in energy saving.

Today, the problem of the budget deficit is relevant for 2/3 of the subjects of the Russian Federation. Almost all the subjects have debt obligations. According to the date of the Ministry of Finance, the sub-Federal debt was 2 trillion 190 billion roubles as of 01.07.2018. For comparison: the same figure as of 01.07.2013 was 1 trillion 311 billion roubles. Thus, the increase in the debt burden was 67 % for regional budgets over the five years. Municipal debt increased by 44.5 % over the same period [4]. The increase in the absolute size of the debt obligations of the subjects of the Russian Federation and municipalities, the increase in the debt burden on their budgets, the possible bankruptcy are threats to the economic and political security of the country. In the context of the deficit of monetary funds, the priority expenditures for the state and municipal budgets are the expenses for the execution of public obligations. At the same time, energy saving requires additional substantial financial investments. The energy strategy of Russia until 2030 contains the following indicators: the necessary investments in energy saving in the period 2009-2030 are estimated at the amount of 244–259 billion US dollars, in 2007 prices [5]. In these conditions, even though the introduction of energy-saving measures should ultimately reduce budget expenditures, the vast majority of regional and municipal budgets cannot find funds for initial investments.

Another problem in the implementation of energy saving policy is the lack of professional experience of energy consumers, which allows evaluating the effectiveness of energy-saving measures offered by the market, and then implement them. The problems of Russia's technological backwardness from foreign countries are related not only to the lack of financing but also to the lack of skills of business entities to transfer knowledge into competitive products and technologies, which are demanded in the market [6]. Moreover, it applies to such entities as state and municipal institutions and such technically complex sector as energy saving and energy efficiency. It is believed that "investment in energy saving is a very complex, ambiguous and in principle, difficult to implement in the practical plane concept" [7]. Energy-saving measures usually have an innovative character. Professional activity in the energy saving market is associated with the need to understand the current state of scientific thoughts, new developments, implementations and the results of their experimental testing have innovative character. Energy saving is usually an innovative activity, which is focused on the latest achievements of science and technology. It is appropriate to highlight the issue of risks that arise in the implementation of energy-saving measures.

As a rule, investments have long-term character. In the implementation of any investment project, the investor faces the difficulty of forecasting inflation processes and in the implementation of investments in energy saving, to assess the possible savings from the introduction of energy-saving measures, and it is also necessary to predict the dynamics of changes in tariffs for energy resources over time with enough accuracy. In investment activities, there is always the possibility that the investment will be wholly or partially lost or will pay off in a more extended period than initially estimated.

As a rule, energy-saving measures are based on the latest achievements of science and technology, projects in energy saving are often unique, and indeed have their own specifics for each specific energy consumer, as they require considering the specifics of loads, technical and operational characteristics of the equipment used, operating modes, climatic factors, etc. Energy saving is not only an investment activity but also an innovative one. G.I. Lukyanov in his doctoral dissertation "Risk as a Phenomenon of Social Reality" notes that the innovative activity is associated with risk, which is due to the uncertainty of the economic situation, and to the uncertainty of the results of research and development, multivariate solutions to innovative problems. If the economic risk is generally understood as the probability of losses because of production and financial activities, the risk in innovative entrepreneurship can be defined as a probability of losses arising from investing in the development of material or managerial innovations, which may not bring an expected effect [8].

Investments and innovations are always fraught with risks. Risk always accompanies business activities. A.S. Vlasova points out, that business activity is burdened with risk [9].

In our opinion, there is a different connection between the concepts of "entrepreneurship" and "risk", and this connection can be seen directly from the legal definition of entrepreneurial activity. According to Article 2 of the Civil Code of Russian Federation "business is an independent, carried out at – risk activities aimed at systematic profit".

From this article, it follows that the business has the right to risk, because the entrepreneur carries out activities in his interest and at the same time risks his property, to make a profit. The situation with the right to risk is entirely different when we talk about the Public finance system and the budget sector. The risk is recognized as a companion of freedom. Freedom is characterized by the possibility of choice, the ability to act independently. Subjects in the budgetary sphere do not have the purpose of their activities to make a profit. Their activities are aimed at the execution of state and municipal mandates. They operate not their own, but public finances, and for this activity is not an appropriate risk, but reasonable prudence, conservative and balanced financial policy aimed at excluding factors related to the possibility of not accurate forecasting, a significant change in circumstances over time.

In economic theory, there are two forms of regulatory risk function: constructive and destructive. Constructability is manifested in the fact that the risk allows overcoming stagnation, psychological barriers, and in solving economic problems, it serves as a catalyser, which is especially crucial in the implementation of innovative investment decisions. The destructive nature of risk is manifested in the fact that the decisions containing unreasonable risk lead to voluntarism, adventurism, and as a risk acts as a destabilizing factor. In public finance, risks should be avoided where possible, bearing in mind their destructive function.

Based on the above stated, it can be concluded that the effective and large-scale implementation of energy saving in the public sector is hampered by some circumstances:

- Limited possibilities of financing of energy saving measures, performed by the subjects of the budgetary sphere;

- The lack of necessary professional training for the subjects of the budget sphere, which allows to evaluate and implement complex technical solutions in energy saving, as in a non-core area for them.

The same group can be supplemented by the risk of innovation and investment activities that should be avoided in public finance.

The energy service agreement (contract) is the tool allowing realization energy saving actions in the budgetary sphere in the conditions of the above-stated problems. Such a contract is a generally recognized common method of work in the field of energy saving.

The energy service company is an investor, and it implements energy-saving measures at the expense of the customer's financial resources and receives reimbursement of costs only in the case of successful implementation of the contract from the amount of savings in energy consumption.

Thus, the energy service contract is a particular way of financing energy saving. It allows the customer to implement energy-saving measures without using of their finances, to pay for the services of the energy service company already from the savings and transfer all the risks of making an inefficient decision directly to the investor.

The state attaches great importance to the development of energy service activities in Russia. The energy strategy of Russia puts its task to form the market of energy services in the period 2009–2015, in the amount of not less than 200 billion roubles per year, in the period 2015–2022 in the amount of not less than 300 billion roubles a year, in the period 2023–2030, in the amount of not less than 400 billion roubles a year. According to the results of the market research of energy service contracts, the volume of the energy service market amounted to 5,021 billion roubles in 2016 [10]. It is quite evident that with the planned indicator of 200 billion roubles per year, this indicates that the market for energy service contracts is not developing to the proper extent.

Specific tasks and activities for the development of energy services in the public sector are formulated in the framework of the Comprehensive plan of measures to improve the energy efficiency of the Russian economy, adopted by the Government of the Russian Federation in April 2018 [3].

By the above-mentioned Comprehensive plan, regulatory acts regulating the procedure for establishing requirements that oblige state and municipal institutions to reduce energy consumption must be adopted by the end of 2018. It is assumed that a target volume of consumption of energy resources based on the specified consumption standards will be set for the organizations of the public sector. State and municipal institutions will perform energy-saving tasks under the control of a specially created monitoring system. In case of exceeding the established standards of consumption of power resources, the organizations of the budgetary sphere will be obliged to realize power service actions.

Some activities of the integrated plan are directed at simplifying of the procedures for concluding energy service agreements (contracts). For this on the end 2018, the Ministry of economic development, Ministry of Finance, and Ministry of Energy of Russia should prepare draft regulations, which will establish mechanisms for removing barriers to attract extra-budgetary investments through the mechanism of energy service contract in the public sector and will develop approaches to facilitation of involvement of participants of energy service activities in a contractual relationship. The government of the Russian Federation will consider proposals for the establishment of specialized organizations in the constituent subjects of the Russian Federation to carry out preparatory work for the conclusion of energy service contracts. A unique information portal, through which it will be possible to use an automated system for concluding and monitoring the implementation of energy service contracts, would be created in the second quarter of 2019. It will automate both the preparation of tender documents and the tender procedures themselves at the conclusion of energy contracts. The monitoring system will allow controlling the implementation of energy service contracts and will reduce the risks of participants in energy service relations. The share of energy service contracts concluded with the use of an automated Contracting system would be 10 % in 2025 and would be 90 % in 2030. To improve the skills of employees in the field of energy saving, the government of the Russian Federation proposes to create a system of distance additional professional education and training of employees of organizations operating in the field of energy service procedures. Thus, the Government of the Russian Federation has identified the need for the development of energy services in the public sector and has planned some activities using methods not used in practice before. The study presented in this article allows us to conclude that the introduction of energy service contracts becomes particularly relevant namely in the budgetary sphere.

### **3. CONCLUSION**

The concept of energy service agreement (contract) was introduced by the Federal Law No. 261-FZ dated 23 November 2009 "On Energy Saving and Increasing Energy Efficiency and Amendments to Certain Legislative Acts of the Russian Federation" [11]. A state program of the Russian Federation "Energy Efficiency and Energy Development" was approved by the RF Government Resolution No. 321 on April 15, 2014. The Program implementation period is 2013-2020. The Appendix N3 of the Program contains the list of the primary actions which part development of institutional mechanisms of stimulation of energy saving is the conclusion of power service contracts [12]. The formation of a sufficient energy service market is a guarantee of the implementation of several state public interests, and the problem of the development of energy service activities and the Institute of energy service contracts (contracts) is particularly relevant about the budgetary sphere.

## REFERENCES

1. Federal Law No. 261-FZ of 23 November 2009. "On Energy Saving and Increasing Energy Efficiency and Amendments to Certain Legislative Acts of the Russian Federation."

2. "Turn off the light!": Dmitry Medvedev urged to reduce energy consumption in the public sector // Russian newspaper No 7404(238) from 19.10.2017.

3. The order of the Russian Federation Government No. 703-R from 19.04.2018 "On approval of the comprehensive plan of measures to improve the energy efficiency of the Russian economy."

4. Website of the Ministry of Finance of the Russian Federation: The volume and structure of public debt of the Russian Federation and municipal debt. https://www.minfin.ru/ru/perfomance/public\_debt/subdbt/2018/; https://www.minfin.ru/ru/perfomance/public\_debt/ subdbt/2013/.

5. The energy strategy of Russia for the period up to 2030 (order of the Government of the Russian Federation N1715-p of November 13, 2009, Appendix No.

6. Ruchkina G.F. On the legal aspect of banks'entrepreneurial activity in the context of modernization of the Russian economy // "Banking law," N5, 2010.

7. Eliseeva I.V. Development of methods and forms of effective investment in energy saving projects // The

dissertation on competition of a scientific degree of candidate of economic Sciences, P. 66, 2008.

8. Lukianov G.I. Risk as a phenomenon of social reality // The dissertation on competition of a scientific degree of doctor of philosophy, P. 176, 2006.

9. Vlasova A.S. Risk as a sign of entrepreneurial activity // The dissertation on competition of a scientific degree of candidate of legal Sciences, P. 3, 2009.

10. State report on the state of energy saving and energy efficiency in the Russian Federation for 2016; https://minenergo.gov.ru/node/5197.

11. Federal Law No. 261-Fz Of 23 November 2009. "About Energy Saving, Increasing Energy Efficiency and on Amendments to Certain Legislative Acts of the Russian Federation" (in the wording of 28.12.2013).

12. State programme of the Russian Federation "Energy Efficiency and Energy Development" (approved by the Resolution of the government of the Russian Federation N321 from 15.04.2014).



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