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Assessment of the competitive environment in the public utilities sector

The state of the competitive environment in the field of public utilities is one of the key factors determining the efficiency of the housing and communal infrastructure. Increased competition in this area can have a significant impact on the quality of services provided, their accessibility to the population, as well as on the modernization and development of public utilities.

Currently, the public utilities sector is characterized by a high degree of monopolization, insufficient level of private investment and low innovation activity. This is due to a number of factors, including the difficulty of entering the market for new players, the lack of effective public-private partnership mechanisms, the lack of transparency of tariff formation, and the lack of development of the service quality control system. In addition, the high deterioration of municipal infrastructure and insufficient funding for its modernization create additional barriers to the development of competition.

To solve these problems, it is necessary to implement a set of measures aimed at developing competition in the field of public utilities. This may include encouraging the transfer of public infrastructure facilities for concession or lease, as well as creating favorable conditions for the participation of small and medium-sized businesses in the provision of public services. In addition, it is important to ensure transparency in the functioning of the industry, improve tariff regulation and introduce modern digital technologies.

The implementation of such measures will increase the efficiency of the public utilities sector, improve the quality and accessibility of public services for the population, and create prerequisites for attracting private investment in infrastructure modernization. This, in turn, will contribute to the development of competition and increase the competitiveness of the industry as a whole. Public authorities should play an important role in this process by implementing a comprehensive policy of supporting and stimulating competition in the public utilities sector.

Keywords: *competitive environment, public utilities, housing and communal infrastructure, monopoly, concessions, modernization of public-private partnership, quality of services*

The state of competition in the field of public infrastructure is one of the key factors determining the effectiveness of the functioning of the municipal economy (public utilities — PU) and the quality of public services provided to the population. Despite the measures taken in recent years to develop a competitive environment in this industry, the situation with the level of competition remains complex and ambiguous.

The purpose of this article is to conduct a comprehensive assessment of the state of competition in the field of modernization of municipal infrastructure in the Russian Federation. To achieve this goal, the following tasks were solved:

1. The concept of PU and what applies to it is considered.
2. Analysis of the regulatory framework governing the development of competition in the agricultural sector.
3. Assessment of the state of the competitive environment in the modernization of municipal infrastructure.
4. Identification of the main barriers to entry in to the municipal infrastructure markets.
5. Identification of key issues that hinder

the development of competition in the field of modernization of municipal infrastructure in the agricultural KXsector.

6. Development of recommendations for improving the competitive environment in the municipal sector.

Regulatory and legal regulation of competition development in the field of municipal infrastructure is carried out on the basis of a number of federal laws^{1, 2, 3, 4}.

These regulatory legal acts provide for a number of measures aimed at developing a competitive environment in the modernization of municipal infrastructure in the agricultural sector, including:

- ensuring equal access to public infrastructure facilities;
- introduction of competitive procedures in the selection of organizations for the modernization of municipal infrastructure;
- creating conditions for the participation of small and medium-sized businesses in the provision of services for the modernization of municipal infrastructure^{1, 2, 3, 4}.

A public utility is a set of facilities and systems that provide the population and organizations with

1 On the General Principles of Organization of Local Self-Government in the Russian Federation : Federal Law of 06.10.2003 No. 131-FL.
 2 On Heat Supply : Federal Law of 27.07.2010 No. 190-FL.
 3 On Water Supply and Sanitation : Federal Law of 07.12.2011 No. 416-FL.
 4 On the contract system in the sphere of procurement of goods, works, services to meet state and municipal needs : Federal Law of 05.04.2013 No. 44-FL.

Table 1. Share of organizations that occupy a dominant position in the modernization of municipal infrastructure in 2023. Compiled by the author^{4,5}

Utilities segment	Share of organizations, with the dominant position, %
Water supply and sanitation	32.4
Heat supply	41.9
Electricity supply	52.7
Gas supply	61.2

basic public services necessary for a comfortable life and activity. There are seven main elements in the public utilities system:

1. Water supply and sanitation.
2. Heat supply.
3. Power supply.
4. Gas supply.
5. Improvement of house territories.
6. Removal and disposal of solid household waste.
7. Operation of the housing stock.

To provide high-quality and affordable public services, timely modernization of public infrastructure is required, which includes:

- updating and replacing worn-out networks;
- introduction of energy-efficient technologies;
- digitalization of municipal infrastructure;
- application of innovative materials and technologies.

Table 1 shows an analysis of the state of the competitive environment in the field of modernization of municipal infrastructure for 2023, which shows that most of the agricultural markets are characterized by a high level of concentration. Analysis of the presented data shows that the most concentrated segments are electricity and gas supply, where more than half of the market is controlled by organizations with a dominant position. In the heat supply sector, the share of such organizations is also high and amounts to almost 42 %. The situation is relatively better in the water supply and sanitation sector, where the share of organizations with a dominant position is just over 32 %.

The high market concentration in the key segments of KH is due to the following factors [1]:

- high capital intensity of municipal infrastructure modernization projects;
- significant investment and technological barriers to entry for new players;
- uncompetitive market participants due to the lack of high-tech equipment;
- historical structure of the industry.

The limited number of players in the utility markets leads to a decrease in incentives to increase efficiency, introduce innovations, and improve the quality of services provided to the end user.

The limited number of organizations is due to the fact that there are a number of barriers presented in Table 2, that prevent

Table 2. Barriers that prevent new organizations from entering the market to participate in the modernization of municipal infrastructure. Compiled by the author [2]

Barrier	Description
High capital intensity	Construction and modernization of water supply, sanitation, and heat supply facilities require significant financial investments, which significantly limits the ability of new players to enter these markets
Technological connectivity	Most of the KH networks and structures are unified technological complexes, which makes it difficult to split them up and create conditions for competition
Administrative barriers	Procedures for obtaining technical specifications, building permits, and licensing activities in the agricultural sector are often complex and opaque, which reduces the attractiveness of the market for new entrants
Imperfection of the regulatory framework	Imperfection of legislation in terms of regulating competitive relations, distribution of powers between authorities, and tariff formation creates additional risks for investors

► **Table 3. The main problems hindering the development of a competitive environment in the field of modernization of municipal infrastructure. Compiled by the author [4, 5]**

Problem	Description
Description Maintaining the dominant position of joint-stock companies with 100 % municipal participation	Often, joint-stock companies, having administrative advantages, displace private organizations from the market, which reduces the motivation of the latter to improve the efficiency and quality of services provided
Insufficient transparency of procedures for selecting organizations for CI modernization	Often, the selection of organizations for the repair of CI is carried out according to non-transparent schemes, using fictitious competitive mechanisms, which limits the opportunities for new players to enter the market
Imperfection of the system of tariff regulation in the field of CU	The current methods of setting utility tariffs do not fully take into account the competitive factor, which reduces the economic incentives for organizations to improve efficiency

new organizations from entering the market to participate in the modernization of public infrastructure.

In accordance with the National Plan for the Development of Competition in the Russian Federation for 2018–2020⁶, it was proposed to reduce the number of state/municipal unitary enterprises (hereinafter referred to as state unitary Enterprises). Municipalities, in turn, solved this problem in a different way, by going through the process of corporatization (100 % of the shares remain with the municipality), while retaining all the assets and working personnel of the organization. Thus, it was possible to preserve the key role of already joint-stock companies in the modernization and operation of AI facilities and at the same time gain greater managerial and financial flexibility [3].

Examples of such organizations include:

- Mosvodokanal JSC, formerly Mosvodokanal State Unitary Enterprise of the City of Moscow;
- JSC “T Plus” — a leading energy company specializing in heat supply and modernization of heat supply systems formerly SUE “Volga Territorial Generating Company”;
- JSC “Teploset of Saint Petersburg” — is responsible for the heat supply systems of the former State Unitary Enterprise “Fuel and Energy Complex of Saint Petersburg”.

In the course of our work, we can identify the following problems that hinder the development of a competitive environment in the field of modernization of municipal infrastructure (Table 3).

In order to develop competition in the field of public utilities and improve the efficiency of the functioning of public infrastructure, it is necessary to consider such a comprehensive direction as promoting the development of private initiative and competition in the provision of services for the modernization of public infrastructure, including measures to encourage the transfer of public infrastructure facilities to concession, lease, as well as entrepreneurship in the provision of public utilities.

The implementation of this activity should include a number of key elements:

1. A clear definition of the requirements for concessionaires, selection criteria and conditions for concluding concession agreements is an important element in creating favorable conditions for the transfer of public infrastructure facilities to the concession. Requirements for concessionaires should include their

financial stability and solvency, including the availability of sufficient own funds and the ability to attract investment, as well as a positive credit history and the absence of overdue obligations. Equally important are the technical and managerial competencies of concessionaires, including experience in implementing similar infrastructure projects and the availability of qualified personnel and an effective management system. The requirements should also take into account the business reputation and reliability of concessionaires, the absence of facts of violation of the law and unfair behavior, as well as the presence of positive feedback from previous partners and customers. The criteria for selecting concessionaires should be as objective and transparent as possible, taking into account financial, economic, technical and reputational aspects, such as the proposed size of the concession fee or investment, the timing and quality of planned reconstruction and modernization of facilities, tariff policy and availability of services for the population, as well as the financial model of the project and sources of financing. The terms of entering into concession agreements should clearly regulate the rights, obligations and responsibilities of the parties, as well as mechanisms for regulating relations in the project implementation process, including the terms of validity of the agreement, the procedure for transferring objects to the concession and returning them, requirements for the volume and quality of services provided, mechanisms for changing tariffs and distributing risks, as well as application of penalties [6, 7].

2. Ensuring equal access of potential investors to information about the objects and conditions of the concession is an important condition for creating favorable conditions for the transfer of municipal infrastructure facilities to the concession. It implies that all essential information about the objects planned for transfer to the concession, their technical condition, main characteristics, as well as the conditions and requirements for concession agreements should be made public and available to all interested investors on an equal basis. To do this, it is necessary to create a unified register or database for objects planned to be transferred to the concession, with a detailed description of their characteristics and condition. In addition, the terms and requirements for concession agreements, including terms, investment volumes, tariff policies, risk allocation and liability of the parties, should be clearly regulated and publicly available. Holding open and competitive

6 On the main directions of State policy for the development of competition : Decree of the President of the Russian Federation No. 618 of 21.12.2017.

concession tenders, where potential investors have equal access to all necessary information, will ensure transparency and objectivity of the selection procedures for concessionaires. This, in turn, will help attract more private investors and promote competition in the implementation of public-private partnership projects in the field of municipal infrastructure [6, 7].

3. The application of open and competitive concession bidding procedures is also a key element in creating favorable conditions for the transfer of public infrastructure facilities to the concession. This implies that the selection process for concessionaires should be as transparent as possible and based on equal access for all potential investors to participate in competitive procedures. To do this, it is necessary to provide broad information about the objects planned to be transferred to the concession, as well as about the conditions and requirements for concession agreements. Conducting open competitive procedures, in which investors have the opportunity to submit applications and proposals on equal terms, will allow identifying the most effective and competent concessionaires based on objective selection criteria. Such criteria should take into account not only the financial, but also the technical, managerial and reputational characteristics of the participants. An open and competitive bidding process will also ensure fair pricing for concessionary properties and help attract more private investment in the modernization of municipal infrastructure. In addition, transparent competitive procedures will increase public confidence in the concession projects being implemented and will contribute to the development of public-private partnerships in this area [8].

4. The provision of tax benefits to concessionaires, such as exemption from property tax in relation to objects transferred to the concession, the application of a reduced income tax rate, as well as the provision of an investment tax credit, is an important mechanism for stimulating the transfer of municipal infrastructure objects to the concession. These tax support measures can reduce the financial burden on concessionaires and thereby increase their interest in participating in concession projects. Exemption from property tax on objects transferred to the concession allows concessionaires to allocate the released funds for their modernization and development. The application of a reduced income tax rate also increases the economic efficiency of concession projects, making them more attractive to private investors. The provision of an investment tax credit encourages concessionaires to invest in the reconstruction and construction of municipal infrastructure facilities. The integrated application of these tax benefits and preferences will reduce the financial risks and costs of concessionaires, which, in turn, will help attract more private investment in the modernization of municipal infrastructure [8].

5. Providing the possibility of setting economically reasonable tariffs for concessionaires, it implies that the tariffs set for concessionaires should take into account the real costs of operating, repairing and upgrading facilities, as well as provide them with the opportunity to make economically reasonable profits. To do this, it is necessary to develop transparent and objective methods for calculating tariffs that will take into account all the necessary items of expenses of concessionaires, including energy costs, staff remuneration, maintenance and repair of facilities, as well as tax payments and planned profitability. In addition, it is important to ensure that tariffs can be regularly indexed in accordance with changes in the cost of resources and the level of inflation. This will help maintain the financial stability of concession projects and

maintain their investment attractiveness in the long term. The establishment of economically reasonable tariffs will help attract more private investors to participate in the modernization of municipal infrastructure under concession conditions.

6. Application of the mechanism of tariff indexation taking into account inflation and cost changes. This mechanism assumes that the tariffs set for concessionaires will be regularly reviewed and indexed in accordance with changes in the main economic factors. First of all, this concerns the growth of prices for energy resources, materials, labor remuneration and other items of expenditure related to the operation and modernization of municipal infrastructure facilities. In addition, tariffs should be indexed to reflect the overall level of inflation in the economy. Such linking of tariffs to actual costs and economic dynamics will ensure the financial stability of concession projects and maintain their investment attractiveness in the long term. Regular tariff indexation, which takes into account rising costs and inflationary processes, gives concessionaires confidence in the ability to cover their costs and make the necessary profit, which encourages them to participate in the modernization of public infrastructure on the terms of public-private partnership [7, 9].

The implementation of the proposed measures will contribute to the development of a competitive environment in the field of modernization of municipal infrastructure, improving the efficiency of public utilities, improving the quality and availability of public services [10].

The conducted research has shown that the state of competition in the field of modernization of municipal infrastructure in the Russian Federation is characterized by a high degree of concentration of most utility markets, the presence of significant barriers to entry for new players, and imperfection of regulatory and tariff policies.

The main problems hindering the development of competition in the public utilities sector are: the preservation of the dominant position of former state unitary enterprises/municipal units, and now joint-stock companies, the lack of transparency in the procedures for selecting organizations providing services for the modernization of energy supply systems, the imperfection of the tariff regulation system, and the insufficient development of infrastructure for the implementation of energy service contracts [11, 12].

To overcome these problems and create conditions for the development of a competitive environment in the field of modernization of municipal infrastructure, it is proposed to implement a set of measures to encourage the transfer of municipal infrastructure facilities to concession, lease, as well as create conditions for small and medium-sized businesses in the provision of public services.

The implementation of the proposed measures will contribute to improving the efficiency of public utilities, improving the quality and accessibility of public services for the population [13–15].

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Оценка состояния конкурентной среды в сфере коммунального хозяйства

Состояние конкурентной среды в сфере коммунального хозяйства является одним из ключевых факторов, определяющих эффективность функционирования жилищно-коммунальной инфраструктуры. Повышение конкуренции в этой сфере способно оказать существенное влияние на качество предоставляемых услуг, их доступность для населения, а также на модернизацию и развитие коммунальных систем.

В настоящее время отрасль коммунального хозяйства характеризуется высокой степенью монополизации, недостаточным уровнем частных инвестиций и низкой инновационной активностью. Это обусловлено рядом факторов, в том числе сложностью входа на рынок для новых игроков, отсутствием эффективных механизмов государственно-частного партнерства, непрозрачностью тарифообразования и неразвитостью системы контроля качества услуг. Кроме того, высокая изношенность коммунальной инфраструктуры и недостаточное финансирование ее модернизации создают дополнительные барьеры для развития конкуренции.

Для решения этих проблем необходимо реализовать комплекс мер, направленных на развитие конкуренции в сфере коммунального хозяйства. Это может включать в себя стимулирование передачи объектов коммунальной инфраструктуры в концессию, аренду, а также создание благоприятных условий для участия субъектов малого и среднего предпринимательства в оказании коммунальных услуг. Кроме того, важно обеспечить прозрачность функционирования отрасли, совершенствование тарифного регулирования и внедрение современных цифровых технологий.

Внедрение таких мер позволит повысить эффективность работы коммунального комплекса, улучшить качество и доступность коммунальных услуг для населения, а также создать предпосылки для привлечения частных инвестиций в модернизацию инфраструктуры. Это, в свою очередь, будет способствовать развитию конкуренции и повышению конкурентоспособности отрасли в целом. Важную роль в этом процессе должны сыграть органы государственной власти, реализуя комплексную политику поддержки и стимулирования конкуренции в сфере коммунального хозяйства.

Ключевые слова: конкурентная среда, коммунальное хозяйство, жилищно-коммунальная инфраструктура, монополия, концессии, модернизация государственно-частного партнерства, качество услуг

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