



# Foreign Experience in the Development of the Housing and Communal Services Market on the Basis of Public-Private Partnership

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**Abstract:** *the article is devoted to the study and generalization of foreign experience in the development of the housing and communal services market based on the use of various forms of public-private partnership.*

**Keywords:** *public-private partnership, European union, foreign an experience, investment attractiveness, concession, sector of the economy, housing and communal services market, Asian countries, type concession agreement, forms of PPP.*

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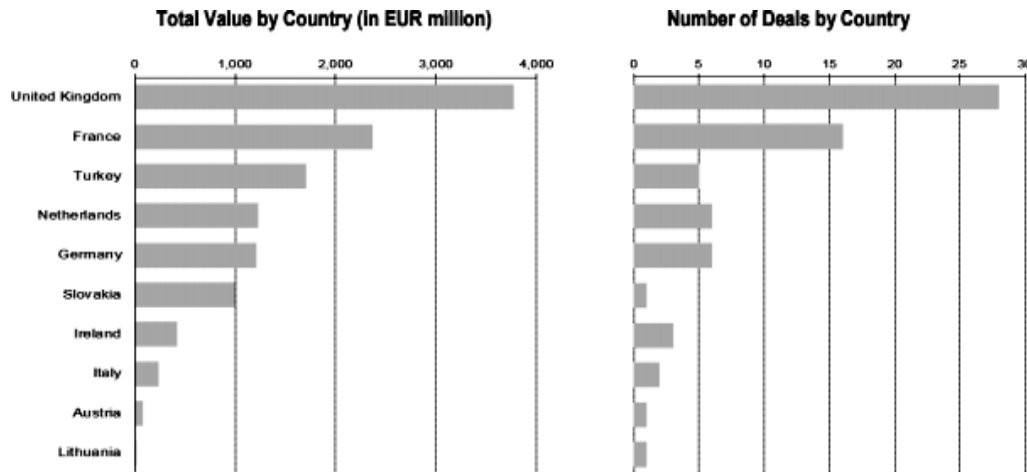
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## Introduction

The last decade of the 20th century was marked by global development public-private partnership in various industries and areas activity, in volume including and in housing and communal sphere. AT currently in The Russian Federation legislates the only possible form of public-private partnerships in housing and communal services - concession agreement. AT the same time, how shows world practice, this form of PPP may not always be recognized as effective, due to the complexity of developing such projects and the problem of rational distribution of risks between the parties to the agreement. Therefore, it is necessary to study foreign experience use mechanisms public -private partnership in the process of modernization and development market housing and communal services.

## Materials and methods

According to the European PPP Center, over the past five years, among the countries of the European Union, the leading positions, both in terms of the number and volume of project financing, have been occupied by the UK and France. In 2016, 44 projects were implemented in these countries, with a total funding of €6.2 billion. The governments of these countries have created the most favorable conditions for the implementation of projects on the basis of public-private partnership, which is also confirmed by statistical data. Yes, in 2016 year in Great Britain It was performed 28 projects totaling 3.8 billion €, in France - 16 projects worth €2.4 billion, which accounted for more than half of all PPP projects implemented in Europe and a number of other countries (Fig. 1).



**Fig.1. the number and volume of financing of PPP projects in 2016**

In 2016, 8% of the total cost of PPP projects presented in the above group of countries was financed by institutional investors (insurance companies, pension funds), amounting to about €1 billion.

If in 2015 there was a decrease in both the number of PPP projects and the volume of their financing compared to previous periods, then in 2016 the value of these indicators equaled the level of 2012. Currently, PPPs are of the greatest interest to investors - projects in the field of transport and healthcare, what also confirmed by the data of the European Investment Bank. Thus, since 2012, the European Investment Bank has financed PPP projects for a total of 10,596.5 million €, including in the field of transport - €7,161 million, healthcare - one 430 million €, what amounted to more 80 % of investments aimed at the implementation of PPP projects. In the municipal sector, the bulk of the investments were aimed at supporting projects for the construction of waste processing plants and desalination stations. And since 2016, the bank began to finance projects in the field of telecommunications that contribute to the development of broadband access in areas with low population density [6].

European Investment Bank is one of the largest financial institutions that subsidizes large projects both within the European Union, So and per his outside. AT The bank mainly finances projects in the field of infrastructure development, environmental protection, etc., aimed at smoothing the socio - economic development of the EU countries.

As can be seen from Table 1, the volume and structure of financing in the EU countries differ depending on the sectoral focus of projects. Thus, one can see which sectors of the economy is currently a priority for the EU countries. So the governments of France and Austria are interested in the development of transport infrastructure and spheres telecommunications, in i n Germany and Denmark, a significant part of the investments is directed to the development of industries and rural economy, in Luxemburg, Finland and Ireland, education and health projects are supported.

Among the group of Asian countries, the largest share PPP projects implemented in sphere energy, accounting for 45.4% of their total number. On the second - rum place development transport infrastructure - 30.8%, the third place is occupied by projects for the construction and modernization of water supply and sanitation systems - 20.3% (Table 2).

The leaders in the number of PPP projects among the Asian countries represented are China and India, they account for 77.5% of the implemented projects. At the same time, while in China priority is given to the sphere of water supply and sanitation, in India it is the development of transport infrastructure.

**Table 1. Financing structure of projects in some sectors of the EU economy the European investment Bank for 2012–2016 yy.**

Country	The total volume of financing, mln EUR	The share of financing of separate branches of economy, %					
		Transport, telecommunications	Utilities	Industry, agriculture	Education, health	energy	Other
Austria	8 204	44	5	9	4	16	22
Belgium	8 943	9	22	12	18	15	24
Bulgaria	1 595	24	14	5	-	-	57
UK	31 283	23	28	5	11	30	3
Hungary	5 219	28	14	24	12	6	16
Germany	34 568	18	12	32	6	7	25
Greece	6 464	17	7	14	7	22	33
Denmark	2 681	30	-	43	-	3	24
Ireland	3 697	20	20	5	27	12	16
Spain	52 647	14	3	8	2	12	61
Italy	48 774	18	9	12	3	17	41
Cyprus	1 343	2	30	3	7	10	48
Lithuania	1 077	17	24	1	6	29	23
Luxembourg	806	3	31	10	38	2	16
Malta	159	14	31	34	10	3	18
Netherlands	9 376	19	11	4	5	14	47
Poland	25 636	46	5	18	3	8	20
Portugal	6 060	4	6	6	3	3	78
Romania	2 706	1	14	27	5	8	45
Slovakia	3 365	27	19	13	0,2	12	29
Slovenia	2 145	15	34	9	4	7	31
Finland	6 349	14	12	26	30	10	8
France	36 165	32	8	12	17	11	20
Croatia	2 365	4	13	1	2	0,1	80
Czech Republic	3 580	7	4	20	-	17	52
Sweden	7 392	5	20	33	9	27	6
Estonia	985	6	20	12	34	20	8

**Table 2. The number of PPP projects in individual sectors of the economy and the total amount of funding in Asia**

Country	The total amount of financing, billion dollars	Number of projects by sector, ed.					
		energy	transport	Water supply and sanitation	Telecommunications	Social infrastructure	TOTAL
Bangladesh	19,3	55	2	-	8	3	68
Vietnam	16,2	66	12	3	3	-	84
India	314	389	416	16	31	7	859
Indonesia	18,6	60	36	14	10	-	120
Kazakhstan	5,25	4	2	-	4	1	11
China	139	355	250	447	-	-	1 052
Thailand	0,14	1	-	1	-	-	2
Philippines	38,8	113	16	15	6	-	150
TOTAL	56,9	77	27	6	7	2	119

Source: drawn up authors on data monitoring Asian jar development [6]

This, we can conclude that the need to implement PPP projects in a particular industry is determined depending on the goals and interests pursued by the state in solving socially significant problems.

The term "public-private partnership" first appeared in the early 1990s. 20th century and is associated mainly with the "British model" of PPP. In 1992, the British government announced the so-called "Private Financial Initiative " (Private Financial Initiative - PFI), which was a modernized concept of public property management. The essence of PFI was to transfer to the private sector the functions of financing (construction, reconstruction, operation, management, etc.) of social, cultural and industrial infrastructure facilities, within the framework of contracts and agreements on public - private partnership, owned by the state. This cardinal change in the public administration system in Great Britain entailed a significant transformation in the institutional environment, as well as in the relationship between the state apparatus and private business [5].

acquires financial and managerial resources private sectors, leaving per clothe battle control above objects infrastructure, and the private investor gets access to the housing and communal services market, which provides significant opportunities for expanding activities and receiving stable arrived. To to that However, according to various experts, the housing and communal sector is one of the most promising Russian industries for the use of PPP mechanisms in the next five to ten years.

PPP mechanisms are widely used in world practice and are based on the following principles:

- building special legal institutions that regulate relations between public and private participants, fixed in official documents;
- the partnership is built on equality and long-term cooperation of its participants;
- projects are formed with the aim of realizing socially useful interests;
- The joint nature of action, when the participants jointly attract resources, makes decisions and

manages the project.

Based on these principles, the following features of PPP can be distinguished:

- ✓ the participants are the state and private business;
- ✓ carried out on the basis conclusions dog thieves, agreements;
- ✓ involves long-term interaction in order to attract additional sources of financing;
- ✓ public, public orientation;
- ✓ to respect mutual interests ;
- ✓ an association assets parties;
- ✓ financial risks, costs, profits are distributed proportionally by agreement of the parties;
- ✓ private business performs the task of the state (observing certain requirements), managing the object;
- ✓ the object of investment passes into private or state ownership, depending on the form of partnership.

One of efficient forms of public-private partnership, widely used in foreign countries and the most acceptable for our country, is a concession.

In the law enforcement practice of many countries, concession agreements of various types are used:

1. Type of BOT, which the stands for how

"Construction-management-transfer". The concessionaire carries out construction within the specified period and exploitation (in mostly on the right of ownership), then the object of the concession passes to the state.

2. The type of BTO that stands for as Build-Transfer-Management. The object is being built by the concessionaire, immediately after the completion of construction it is transferred confessor (state) into ownership, then the concessionaire receives it for operation.

3. Type of SBI, which the stands for how

"Construction-ownership-management". The construction and subsequent operation of the object is carried out by the concessionaire, who owns the object on the right of ownership, unlimited in time.

4. Type of WOOT, which the stands for how

"Build-Own-Manage-Transfer". The construction and subsequent operation of the facility is carried out by the concessionaire, which owns object on the law property in flow a certain period. Then the object becomes the property of the state .

5. Type of bbo, which the stands for how

"Purchase-construction-management". State transfers an object private sector which the performs the necessary actions to improve (restore / expand) an existing facility and effectively manage it.

The type of concession agreement is chosen by the government of a particular country, depending on the understanding of the tasks and principles of implementing projects based on PPP. Let us cite the most commonly used forms of PPP in the housing and communal sector using the example of some foreign countries .

Thus, intense competition between public and private operators is observed in the market of housing and communal services in France. Since this sector requires significant investment, the market is dominated by large operators. Private operators operating under delegated management agreements with local governments are more represented in the market for water supply, waste management and district heating. Public operators are of decisive importance in the areas of energy supply and public transport. There are two forms of management in the French water supply industry – direct management by a municipality or management by a specialized company. In the first case, the municipality bears full responsibility for investment, operation and customer relations. This method prevails in large cities or small rural municipalities. With delegated management, management functions given sphere completely or partially transferred under a long - term contract to specialized enterprises of various forms of ownership . In this case, the following forms of agreements are used: a lease agreement (the most common), in which the municipality makes capital investments, and a specialized organization is entrusted with the operation of the facility; a concession agreement under which the concessionaire builds and operates infrastructure elements at its own expense. In any case, municipalities retain ownership of all equipment and are responsible to the consumer.

The German public utilities market is represented by both large holdings and a large number of small and medium - sized enterprises. Thus, water utilities are managed by joint-stock companies, the controlling stake of which is owned by the municipality. Municipal authorities, on the basis of such a scheme, control the industry and manage property through market institutions. Mortgage banks are attracted to provide financing for infrastructure projects, which provide loans under guarantees municipalities, a also issue "communal bonds" secured by funds from the Federal Bank and loans secured by municipal property. This policy makes it possible to attract private investments for subsequent lending to the housing and communal sector of the country.

A similar scheme for the management of communal infrastructure is presented in the Netherlands, where the water supply companies are also joint-stock companies and the municipalities own the controlling stake. It should be noted that benchmarking is developed in the Netherlands, which implements a systematic comparison of the production processes of companies, which serves to improve management efficiency. An important role in the management of the water supply system is played by a public organization - the Dutch Consumer Association, which controls the quality-of-service provision and water tariffs.

Play an important role in the provision of public services in Finland. With the help of specialized organizations, they solve the everyday problems of the life of citizens, such as the removal and processing of household waste, sanitation, organization of water supply, etc. e. These organizations work with municipalities on a contract basis. At the same time, contracts can be concluded only for the operation of engineering communications or their repair, as well as for the construction of new engineering networks. Municipalities set standards for the quality of provided housing and communal services. Contracts signed between operating organization and the municipality contains specific tariffs for the services provided and working conditions.

The experience of Poland is interesting, where all types of public services were combined into a single company by creating a joint-stock company with 100% state capital. In the field of energy, water supply and sanitation, 100% of the shares are owned by the municipality. In the field of garbage collection and housing repair, private companies are represented, to which the state provides soft loans for the modernization of fixed assets.

The experience of Singapore, where high-rise buildings predominate due to high population density, is a good example of active state participation in the functioning and development of the housing and communal sector. The Housing and Utilities Authority of Singapore distributes all types of



public services through open tenders, keeping in its hands only exploitation elevators. Private the management company and the municipality enter into a management contract, and 2 payment options are possible:

- 1) payment based on the results of production and economic activities;
- 2) Fixed remuneration from the municipality.

The revenues from public services go to the budget of the municipalities, which are responsible for investments in the public sector.

In Guinea, lease agreements are widespread. For a period of up to 15 years, the tenant receives management and maintenance of utility infrastructure facilities. The responsibility of the tenant extends both to the management of the facility and to collect payments for services rendered. Rent payments are paid at the expense of the tariff for services and operating costs. The municipality retains ownership of the leased facilities and develops an infrastructure development program. As a result of this approach, Guinea's coverage of water services has almost doubled.

U.S. utilities are dominated by private firms. The municipalities own the largest part of the engineering infrastructure of the communal urban economy, which is operated by private operators on the basis of:

- ✓ contracts rent;
- ✓ concession agreements;
- ✓ contracts on the control.

Economic audit services in local governments assess the efficiency of municipal services . With their help, local governments determine reserves for cost reduction and monitor compliance with quality standards. At the same time, the state regulates the level of prices and tariffs in the household electricity and gas markets.

The US federal government is organizationally and financially involved mainly in the following areas:

- investment in natural resources;
- security environment ;
- development water transport and ports;
- Development stations.

Government's states bear a responsibility:

- ✓ per construction highway roads;
- ✓ for the development of a network of electricity, heat and gas supply.

Local authorities, using various sources of funding (federal subsidies in various forms, funds from state budgets, their own budgetary funds), bear responsibility for the development of communal infrastructure (water supply, sanitation, sanitation, public transport, etc.).

The provision of services in the field of housing and communal services in the United States is also carried out on the basis of franchising - territorial governments enter into agreements with private companies that are obliged to:

- enter representative local authorities in the composition of its board;
- deduct a part (usually 5–10%) of income to the local budget;

- To advertise branded sign territorial authority.

The problem of attracting investment in infrastructure projects in The United States is also solved by issuing municipal bonds, which provide exemption of income from municipal loans from taxation. At the same time, federal targeted programs are being implemented based on the selection of recipients of state support according to certain criteria.

One of the largest concession-based water supply projects is in Buenos Aires , Argentina. As a result of the implementation of this project, more than one billion Doll., repaired and replaced 1 500 km engineering networks, on the 40 % increased production \_ power. AT then same time due to insufficient elaboration of the project due to the lack of objective information on the state of fixed assets, volumes production and consumption water taking into account her losses in networks, goals, initially pledged \_ in contract, turned out to be unattainable what led \_ to repeated revision conditions contract and non-fulfillment of a number of obligations.[2]

In connection with the reduction of budget financing for the development of engineering infrastructure, the government of Côte d'Ivoire was forced to involve a private company in the provision of water supply services on the basis of a concession agreement. To reduce investment risks, the terms of the concession provide for investments only in the operation, maintenance and repair of fixed assets without the obligation to make capital investments. To finance the construction of new engineering networks, as well as the possibility of connecting low-income water users in the country, a state agency was created, the funds of which are formed mainly from the rent included in the tariff. As a result, tariffs have decreased by an average of 25%, and the level of household payments is at least 98%.

PPPs have been widely used in the implementation of infrastructure development projects in the developing countries of Asia, among which, as we have previously noted, China and India occupy the leading positions.

In China, the largest number of PPP projects is in the water supply and sanitation sector, followed by the energy complex. The first pilot project to attract private foreign investment in the field of water supply was implemented by the government of this country in the provincial capital of Sichuan. Within the framework of this project, a private investor built a station for the production of water, and operated it in the future transmitted in own states. General price project amounted to 106.5 million dollars. A balanced distribution of risks between the project participants made it possible to attract a sufficient amount of financing. Thus, the risk of force majeure associated with a change in legislation was assigned to the municipality. A distinctive feature of this project is absence guarantees from the central and provincial authorities.[4]

Despite the fact that in In India, public-private partnership mechanisms are widely used in the field of transport and energy, the government of this country pays attention to the issues of uninterrupted provision of the population with water supply. One of the successful PPP projects supported by the Asian Development Bank in 2013-2015 is the construction and operation of a water supply system in Ilkal, Karnataka. A feature of this project was the possibility of stimulating the contractor for the purpose of early construction of the facility. So, in the contract at the construction stage, it was stipulated that the contractor could receive a bonus in the amount of 0.05% of the contract value for each day early completion construction object. As a result, the water supply system was commissioned 89 days before the deadline specified in the contract, and the contractor received a premium of 4.45% of the contract value. The implementation of the project allowed more than 50 thousand residents of the city to supply water uninterruptedly and around the clock, reducing their electricity costs by an average of \$ 4 per month [20].



In a number of Pacific island countries in the field of wastewater disposal and wastewater treatment, the most widespread form of PPP, like DBOM (design - construction - operation - maintenance) (table 3).

**Table 3. Forms of PPP in some countries, Pacific Islands**

Country	Form of PPP	The term of the contract	Scope	Payment mechanism
Papua New Guinea	DBOM	22 years old	Sewage treatment plant	Fixed tariff + fee of the volume of liberated water
Vanuatu	Conces - sion	40 years old	Water	rate provides a return 12 % investment
Samoa	DBOM	5 years	Wastewater treatment plant / Sewage treatment plant	Fixed rate including penalties for performance degradation / Fixed rate subject to penalties for slow performance
The Federated States of Micronesia	DBOM	2 years	Sewage treatment plant, drainage	Fixed rate subject to penalties for reduction targets
Marshall Islands	DBOM	4 years	Sewage treatment plant	payment depending on the achievement of performance criteria
Palau	DBOM	5 years	Sewage treatment plant	Fixed rate subject to penalties for slow performance

This form of PPP projects is based on the responsibility of a private investor for the operation and maintenance of the facility after its construction, thereby stimulating the contractor to improve the quality of work during design and construction. At the same time, the state retains ownership of the assets and monitors compliance with the terms of the contract. It should be noted that the use of concession agreements not received development in data countries due to the complexity of project development and further monitoring of compliance with the price and quality of services. In the field of waste collection and disposal in these countries, wide Spread service contracts concluded in order to provide certain level service on the short term (2–3 years).[1]

## Results

Thus, in different countries of the world forms of implementation of PPP projects in the provision of housing and communal services are used taking into account economic and social development, legislative practice, political processes and the mentality of the country's population. What is common to all countries is that the responsibility for housing and communal services is borne by the state, regardless from model's management housing and communal services.

At the same time, as the foreign experience of some countries shows, not all PPP projects implemented in the field of modernization and infrastructure development have been successful. The main problems at implementation data projects become - distribution risks between participants partnerships, the lack of a systematic analysis of the factors contributing to the successful implementation of projects in a particular country, the quality of preparation of the projects themselves.

## Discussion

The study and generalization of foreign experience in the development of the housing and communal services market on the basis of public-private partnership showed that the concession is

one of the forms used to attract investment in the housing and communal services sector of various countries of the world, and not the only one. how in case With RF. Choice toy or a different form of PPP is due to the peculiarities of the legislation countries, schemes distribution of risks between partners, industry affiliation of the project, etc. Thus, in domestic practice, it is necessary to develop other equally effective forms of partnership between the state and business, taking into account specifics housing and communal spheres and socio - economic situation of the municipality, within which the market of housing and communal services is being formed.

### **Conclusion**

In general, as the world practice of developing public-private partnerships in various industries and fields of activity has shown, it has great advantages both for the state, business, and for society.

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