

**5th the International Conference
on Science and Technology 2015**

Zeldner A.G., Sidorova N.G., Oleinik E.B.

**PUBLIC-PRIVATE PARTNERSHIP
FOR REALIZATION OF THE
INVESTMENT PROJECT OF GAS
DELIVERY TO THE POPULATED
AREAS OF THE RUSSIAN FAR EAST**

**Zeldner A.G., Russia, Russian Academy of Sciences,
Institute of Economy, Full Professor, Doctor in Economics
Sidorova N.G., Russia, Far Eastern Federal University,
Associate Professor, PhD in Economics
Oleinik E. B., Russia, Far Eastern Federal University,
Associate Professor, PhD in Economics**

Abstract

In this article public-private partnership is defined as a specific form of coordination of economic activity under conditions of mixed economies in order to increase the effectiveness of economic resources by joining together efforts of the state and private enterprises. In this paper the characteristics, principles, forms and kinds of cooperation between the state and private enterprises in public-private partnerships are considered. In the interest of attracting investment, it is suggested to use the mechanism of public-private partnership when supplying gas to the populated areas of the Russian Far East.

Keywords: mixed economy, coordination, public-private partnership, co-financing, investment, bond-secured loan.

Introduction

In mixed economies the development of public-private partnerships is currently common. This is demonstrated both in foreign countries and in present-day Russia where this problem has been exhaustively covered in scientific articles and solved in business activities [1, 2]. Public-private partnerships have become the most popular approach to building towns, highways, railroads, air- and seaports, economic and technological development zones,

**5th the International Conference
on Science and Technology 2015**

and infrastructure facilities in the production and social spheres, and especially for fuel and energy complexes.

Methods

The instruments available to regulate economic and financial development of the fuel and energy complex includes:

- Energy efficiency measures. They are implemented to all groups of consumers and taken by rational combining of fuel resources for heat and power production, by installation of energotechnological machines in industry, and by employing advanced energy efficiency strategies;
- Minimizing heat and energy usage. The main purpose here is to level off both daily and seasonal patterns reflecting the consumption of heat and electricity supplied by the fuel and energy complex. It supposes such administrative and technical measures as switching off or load-shedding within the definite time of the day, etc;
- Methods of economic encouragement directed at the participants in the program of the innovative development of some branches of industry. The methods are used considering special characteristics, objectives, and production projects. In particular, active public-private partnerships help keep the balance between prices for electricity and heat, rates for heat and energy.

System of Instruments to Regulate Economic and Financial Development of the Fuel and Energy Complex presented in figure 1.

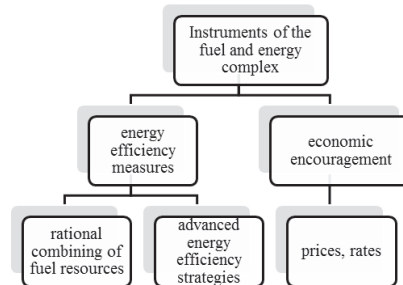


Figure 1: System of Instruments to Regulate Economic and Financial Development of the Fuel and Energy Complex

5th the International Conference on Science and Technology 2015

The main characteristics of public-private partnership are as follows: it is established in the area of the state responsibility; it is directed at the development of the infrastructure (both production and social); it supposes specific options of co-financing (joint investment, private investment, priority of state investment); it gives private enterprises broader options of managing projects than completing state orders; it uses specific forms of sharing responsibility with co-partners; it is of a long-term nature but has some restrictions; it delimits project risks between the partners.

Review of concepts public-private partnership in scientific articles.

There are many ways of interpreting public-private partnership in scientific articles. For example V.G. Varnavsky [3] writes that "It is now more important than ever to understand that public-private partnership is the institutional and organization alliance between the state and private enterprises in the purpose of carrying out national and international, large-scale and local but always worthwhile projects. These projects are usually implemented in various spheres of public activity: from development of strategically important branches of industry and Research and Development to providing public services". This definition is widely accepted by many authors. However, it does not clarify what the institutional alliance is, nor whether the author thinks that institution and organization denote different concepts.

For I. M. Ablaev [4] public-private partnership is "a constant and renewable process of interaction between the state and private enterprises in industry throughout the entire territory of the country and at all management levels". From our point of view, the author puts rather loose interpretation on the term because interaction of the state and private enterprises as a constant and renewable process occurs in other forms than public-private partnership.

E.V. Zubrilin [5] uses the term "public-private partnership" to refer to economic, political and legal relationship between the state and private enterprises at all levels of public administration. This relationship is considered by the author as "systematic institutionalization between sectors of economic activity differing in patterns of ownership which lays foundation for mixed economy". It should be certainly agreed that public-private partnership is the concept of mixed economy. But it should also be noted that many authors understand this concept either by giving vague and not exact definition of public-private partnership as a system of relationship between the state and private enterprises or by narrowing down it to concrete forms of cooperation.

**5th the International Conference
on Science and Technology 2015**

Results

Taking into account different definitions of public-private partnership we believe that it is better to explain its economic nature before everything else. In the theory of economics there are distinguished two ways of coordinating economic activity for market participants: unregulated activity and centralized ones. The economic system represented by unregulated activity presents a free market where the information essential for producers and consumers is conveyed to them by price signals. The other way of conveying the information is a system of orders and instructions issued hierarchically from the center to the producer. This system is based not on price signals but on the authority of the managerial body which can be represented by company's management, local authorities, or state authorities. Both unregulated and hierarchic activities coexist in practice.

One of the forms of collaboration, i.e. a specific way of coordinating the activity of market participants is public-private partnership aimed at increasing the effectiveness of utilizing limited economic resources by joint efforts of the state and private enterprises. Public-private partnerships are one of the most complex forms for coordinating interactions, and are used between the state and private enterprises at different levels and in different sectors of economy. It is necessary to distinguish public-private partnership from other forms of interaction between the state and private enterprises. For example, there are various measures taken to support private enterprises (state lending, subsidy, concessional taxation, state orders, etc.) that are not public-private partnerships. There are no special characteristics, however, that make collaboration a public-private partnership such as co-financing or delimiting risks between the partners. In our opinion public-private partnerships should not be regarded as privatization or nationalization because these phenomena differ from each other in their nature. Public-private partnership is one of the forms in the mixed economy, whereas privatization and nationalization are the processes typical for transitional economy.

Public-private partnerships create specific models of ownership relations, management, and types of financing [6]. In this connection public-private partnership agreements not only combine the capital of the state and private enterprises, but also define the scope of authority of the parties according to the criterion of resource efficiency. A.G. Zeldner [7] writes: "The main function of public-private partnership is participation of the partners in the integration scheme of cooperation to develop the value chain in order to deliver a valuable product for the market". This function can be performed

**5th the International Conference
on Science and Technology 2015**

due to common interests of the state and private enterprises, and their mutual benefits. Thus, the state is interested in:

- the control and regulation of public interests;
- the participation of private enterprises in financing infrastructure projects;
- the retaining control over strategically important branches of economy;
- the implementation of the national policy in the regions;
- the possibility of applying knowledge and best practices of private partners to minimize costs and upgrade the quality of products and services;
- the possibility of using innovative technologies in production, management and administration;
- the decrease of the outflow of capital abroad and the increase of the investment appeal of the national economy;
- the enhancement of the economic stability of the country.

Private enterprises are interested in:

- the growth of profits and capital;
- the marketing development;
- the ability to raise capital;
- the pledging of security for private funding and the reduction of risks of private investments;
- the enhancement of the investment prospects of the projects;
- competitive recovery within the country and abroad;
- the improvement of the educational status of human recourses.

In the frames of private-public partnership there exist a possibility of combining the interests of both sides: the state (which is a carrier of public interests) and private enterprises (which accumulate private interests). From this it follows that relationship between the state and private enterprises i.e. between business partners should be based on the principles of openness, trust, justice, mutual benefits, and it predetermines the choice of forms and kinds of private-public partnership. To the forms and kinds of public-private partnership there can be referred: state contracts (for carrying out works, for management, for services, for supplies of products for state requirements, for technical assistance); concessions (e.g. build-operate-transfer, build-own-operate, operating without the stage of construction, shadow concessions); production-sharing agreements, joint ventures (with and without transformation into a joint-stock company) [8]. However, in the contemporary scientific articles there is no definition of sums of money got from the public. As public property includes personal, corporate, joint-stock, intellectual,

5th the International Conference on Science and Technology 2015

copyright, and some other forms of property owned by non-governmental legal entities, it is fully justified to refer it to public-private partnership.

In keeping with the innovation policy, the use of mechanisms of public-private partnership is the one of the crucial tasks of the fuel and energy complex both in the country and in its regions. In the Russian Far East according to Development Program there exists an urgent need for attracting investments especially in gas supply to the populated areas of the region [9]. For instance, in 2013 the total amount of financing from the regional budget was planned to reach 219 million rubles to deliver gas to municipal unit territories. Over 100 million rubles were financed from municipal budgets to this objective. The money is provided by subprogram "Establishment and Development of Gas Supply System in Primorsky Krai" from 2013 to 2017 which is a part of the state program "Energy Efficiency, Development of Gas Supply System and Energy Production in Primorsky Krai". The program is adopted to 2017 year. The program will let deliver gas to 41 populated areas in 9 city districts (Vladivostok, Ussuriysk, Artem, Nakhodka, Lesozavodsk, Dalnerechensk, Spassk Dalny, Closed Administrative-Territorial Unit Bolshoy Kamen, Closed Administrative-Territorial Unit Fokino) and in the Spassk municipal area. At the present time the system of gas supply is being schemed in Vladivostok, Ussuriysk, and Artem city districts and in the Spassk municipal area. It is planned to build gas pipelines in Vladivostok and Ussuriysk of 7.5 km total length. The total amount of financing from the regional budget to supply gas to the cities and populated areas of Primorsky Krai is planned to reach 1.28 billion rubles by 2017. Over 500 million rubles will be transferred by municipal authorities participating in the program. Taking into account the existing budget deficit it would be practicable to raise money by getting sums of money from the public. To fulfill this task regional and municipal authorities might sell bonds to the public. The authorities of Primorsky Krai could serve as an obligor, and Gazprombank could be a private enterprise to manage the project. In this case bonds present a credit agreement in the form of security papers supposing not a single bond creditor, but a number of creditors giving a loan to a single borrower.

The distinctive feature of bonds is that they can be issued as fixed rate coupons that carry a predetermined annual interest rate. Consequently, the borrower knows its annual loan expenses, and the creditor – its annual interest rate. Bonds can be issued with one or several bond expiry dates. To estimate the total rate of interest it is necessary to be aware of the rate of returns on the bonds of both

**5th the International Conference
on Science and Technology 2015**

kinds. If the bond allows for only one expiry date, exactly this date will be used to calculate interest rate. But if there are two expiry dates with the interval of, for instance, five years, it is necessary to choose the better one. In the studied case of borrowing money from the public to provide gas supply in Primorsky Krai, it is necessary to make an optimality calculation of the bond-secured loan of 1.28 billion rubles. In this case the public will be the creditor investing their capital into the bonds which bear them interest with coupons. Bond-secured loan of 1.28 billion rubles, issued by regional authorities on the term of three years, has its characteristics: interest rate and price. As this bond loan is subsidized and interest rate is payable before bond maturity there is expected yield to maturity. Yield to maturity is overall interest rate earned by investors while holding bonds both with coupons and increasing or decreasing principal payments within the period from the date of purchase to maturity, assuming that all coupon payments were reinvested at an interest rate equal to yield to maturity.

There are some formulas to calculate yield to maturity. In this article we consider the formula when capital gain on bond is added to operating surplus, and then it is calculated as percent of the current price:

{coupon + [(par value) : number of years to maturity]} : market price, then the result is multiplied by 100. The price of the bonds offered to the public – 75, coupon – 10%, par value – 100, number of years to maturity – 3, the calculation is:

$$\{[10 + (100 - 75) : 3] : 75\} \times 100 = [(10 + 8,33) : 75] \times 100 = 24,44$$
, i.e. it is 24,44 rubles per one purchased bond. The public must be interested in this investment option. Taking into account the existing inflation rate they will be able to secure their money.

As can be seen from the above, the issue of bonds will let the authorities solve the problem of financing the project by using public-private partnership as a new instrument to implement investment programs. This instrument can be used not only in the fuel and energy complex but in other investment projects.

References:

- [1] Manos, Basil, Pietro Bartocci, Maria Partalidou, and Francesco Fantozzi. 2014. Review of public-private partnerships in agro-energy districts in Southern Europe: The cases of Greece and Italy. *Renewable and Sustainable Energy Reviews*, 39: 667-68. Accessed January 3, 2015 at: <http://www.sciencedirect.com/science/article/pii/S1364032114004833>. doi: 10.1016/j.rser.2014.07.031

**5th the International Conference
on Science and Technology 2015**

- [2] Deng, Nianguo. 2009. Public-private-partnerships and Governmental Innovation of Public Services: A Case Study of Waste-to-Energy Projects in Wenzhou City. Proceedings of the 2009 International Conference on Public Economics and Management ICPEM 2009, Vol 4: 160-170. Accessed February 16, 2015 at: http://apps.webofknowledge.com/full_record.do?product=UA&search_mode=GeneralSearch&qid=1&SID=P2Tiq2Pfd79BJL3t8I2&page=1&doc=2
- [3] Varnavsky, V.G. 2005. The Partnership of the State and the Private Sector: Forms, Projects, Risks. Moscow: 34-37.
- [4] Ablaev, I.M. 2013. Fundamentals of Public-Private Partnership in Innovative Sector. Economic Sciences, 1 (98): 15-18.
- [5] Zubrilin, E.V. 2013. Public-Private Partnership as a Factor to Establish Stable Market Relationship. Economic Sciences, 4 (101): 27-30.
- [6] Zamfir, Andreea. 2012. Development of Regional Renewable Energy Projects in Romania through Public-Private Partnerships. Proceedings of the 6th International Management Conference: Approaches in Organisational Management: 778-784. Accessed February 18, 2015 at http://apps.webofknowledge.com/full_record.do?product=UA&search_mode=GeneralSearch&qid=2&SID=P2Tiq2Pfd79BJL3t8I2&page=1&doc=1
- [7] Zeldner, A.G. Upgrading Public-Private Partnership in Russia - System Approach. Economic Sciences, 1 (98): 7-14.
- [8] Kubarev, E.N. 2008. Forms of Partnership between the State and Private Enterprises during the Investment Process. Problems of Modern Economics, 2 (26). Accessed January 10, 2015 at: <http://www.m-economy.ru/art.php?nArtId=2025>
- [9] The Official Site of Primorsky Krai Administration. 2014. Accessed January 22, 2015 at <http://primorye.ru>