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### **Alignment of the regional differentiation of tariffs in the sphere of thermal and electric energy in the Russian Federation**

*This article is about different methods of the state regulation in the sphere of heat and power energy. The government influences on the economic process in the state through the system of state regulation. The methods of regulation and a level of tariffs of heat and power energy are analyzed. The conclusion is drawn on existence in the Russian Federation of a problem of the difference level of tariffs in the region. Recommendations about the smoothing of tariffs and the methods of lowering tariffs are provided.*

### **Выравнивание региональной дифференциации тарифов в сфере тепловой и электрической энергии в Российской Федерации**

*В статье рассмотрены различные методы государственного регулирования тарифов в сфере тепловой и электрической энергии. Наличие системы государственного регулирования тарифов на электрическую и тепловую энергию позволяет государству изменять степень своего влияния на экономические процессы, происходящие в стране. Проанализированы применяемые государством методы тарифного регулирования стоимости тепловой и электрической энергии, а также уровень тарифов на тепловую и электрическую энергию в разрезе федеральных округов. Сделан вывод о наличии региональной дифференциации тарифов; рассмотрены факторы, влияющие на дифференциацию тарифов. Представлены рекомендации по сглаживанию тарифов и способы их снижения.*

**Keywords:** *state regulation, tariffs and prices, methods of regulation, difference level of tariffs in the region, smoothing of tariffs.*

**Ключевые слова:** *государственное регулирование, тарифы и цены, методы регулирования, региональная дифференциация, выравнивание тарифов.*

According to the Federal law from 8/17/1995 No. 147 – FL (edition from 10/5/2015) "About natural monopolies", the market of electric and thermal energy is exclusive. Tariff and price regulation in the considered sphere is a method of legal regulation and can be used as the effective economic mechanism including for assistance of development of the regions.

Now the standard and legal base on regulation of tariffs and prices of thermal and electric energy is imperfect. Lack of the uniform normative legal act, accurately limits the power of regulating bodies, and the uniform simplified method of calculation of the tariff for all regions negatively influence the quality of price regulation. It results in bankruptcy of the economic entities, unreasonable increase in the prices and tariffs for thermal and electric energy, unequal position of different regions, lack of investments into the power industry and power system; is a brake in the social and economic development of the state in general. Proceeding from it there is a need of complex analysis of the problems of administrative and legal regulation for the sphere of regulating activity of the state, and also the search of effective forms of administrative influence.

Tariff regulation represents the functioning of authorized bodies of the government (regulators) directed to the establishment of tariffs and their limits, and also the control of increase in prices for the provided services by the subjects of natural monopoly in the domestic market. The regulators of executive power establishing tariffs are:

- at the federal level – the Federal antimonopoly service to which all powers of the earlier functioning Federal tariff service of Russia are delegated (this body has been abolished by the Decree of the Russian President from 7/21/2015 No. 373);

- at the regional level – public authority of the territorial subject of the Russian Federation (in the Khabarovsk territory – the Committee on prices and tariffs of the government of the Khabarovsk territory).

Tariff regulation of the sphere of heat supply and power supply is carried out by the means of system of the price bases on which calculations of tariffs for thermal and electric energy are carried out. Basic elements of the state regulation are the standard and legal base, organizational support, methodical providing. Tariff regulation is carried out through the purposes of limit rates or by the means of introduction of the special calculation methods.

By the main methods of regulation of tariffs for thermal and electric energy are [2, the art. 9]:

- a) the method of indexation of the established tariffs. Period of validity of the established tariff makes no more than 5 years, and at the first regulation of the organization – not less than 3 years. When using this method operating expenses aren't reconsidered constantly every year, and annually indexed taking into account the inflation index [5, i. 72; 7, i. 33];

- b) the method of ensuring profitability of the invested capital meaning that together with the uncontrollable and operating expenses join in the necessary gross revenue return of the invested capital, the income on the invested capital. The period of validity of tariffs is similar to the previous method.

The term of return of the invested capital considered by the executive authority of the territorial subject of the Russian Federation at establishment of the long-term tariff makes 15 years (annually equal shares) from the moment of beginning of action of the tariff established concerning the adjustable object;

c) the method of comparison of analogs which is that data on the concrete organization are compared to indicators of the other organizations conducting similar activity [7, i. 92, 100, 101] [5, i. 79]. Data are collected, analyzed and each 5 years are corrected. Comparability of conditions of the activity is reached by the means of application of coefficients of comparability, and also division of the organizations for subgroups within one kind of activity;

d) The method of indexation of necessary gross revenue applied only in the sphere of electric power [4, i. 33]. This method can be applied at establishment of the adjustable tariffs for term more than 1 year. Indexation is carried out over the earlier approved adjustable tariffs and (or) their limit (maximum or minimum) levels, or over the necessary gross revenue regulated the organizations.

Regulators have the right to apply the considered method of indexation of tariffs, only when the rate of inflation (consumer price index) determined in the forecast of social and economic development of the Russian Federation makes in the settlement period of regulation no more than 12% a year.

e) the method of economically reasonable expenses (expenses) is often applied the regulation method when the considered organization didn't become earlier an object of the state regulation and also when in the adjustable organization there are no signed lease contracts of the objects of heat supply or the remained term of functioning of the all lease contracts in day of filing of application for the statement of tariffs makes less than 3 years [5, i. 17].

The model of calculations of prices (tariffs) by this method can be presented the following sequence:

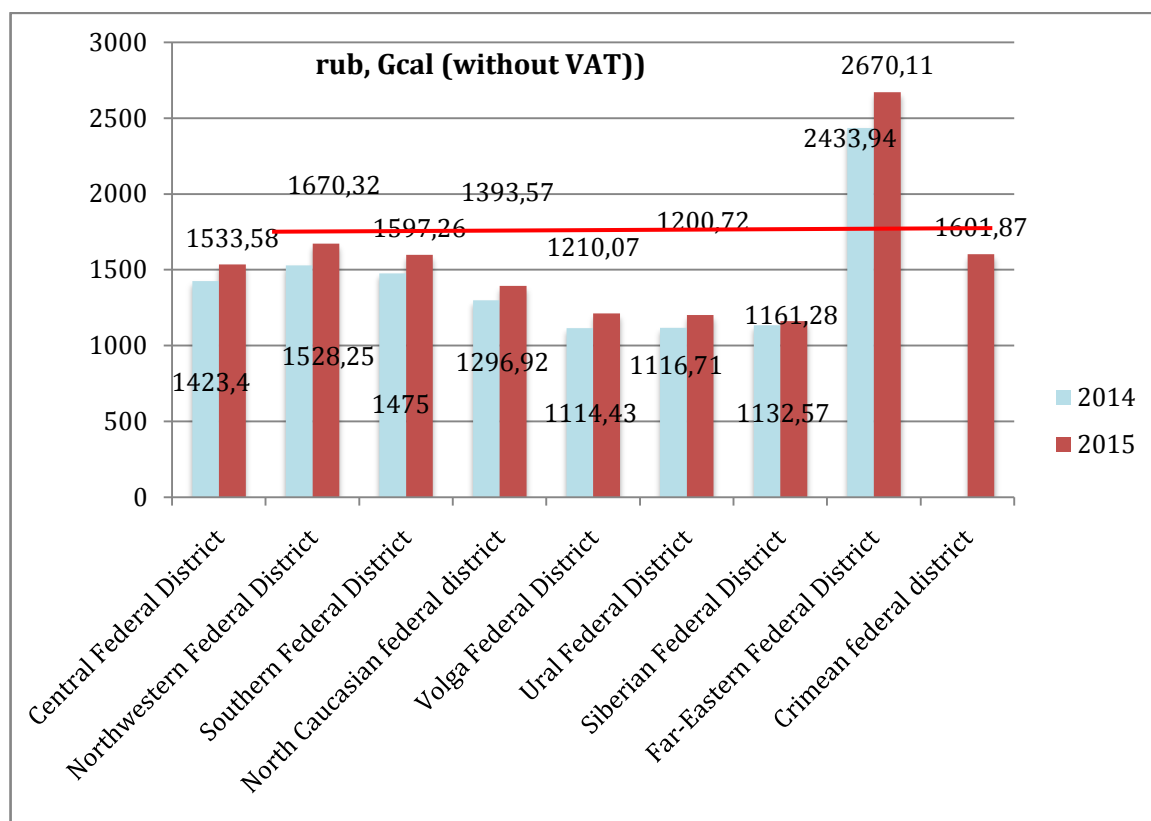
- the general need for financial means (profit and prime cost) on the considered kinds of activity for the term of regulation is proved;
- the forecast of volumes of the delivered energy considered in kind is formed;
- distribution of the general need for profit and prime cost between the types of production according to the adjustable activity is carried out;
- calculation of tariffs is performed: the average, and also on the groups of consumers.

The tariff for thermal energy pays off by the search of private necessary gross revenue and the released energy.

Following the results of the settlement period the regulator excludes from the necessary gross revenue of the adjustable organization the unreasonable expenses revealed at the analysis stage by the presented adjustable organization of accounting and statistical reports [5, i. 50].

For identification of a problem it is necessary to consider the dynamics of change of tariffs on the federal districts of the Russian Federation. According to the executive authorities of territorial subjects of the Russian Federation about the made tariff decisions for 2014 and 2015, the highest size of tariff for the thermal

energy which is released by the heat supplying organizations to the consumers in 2014 has been established in the Far-Eastern Federal District (fig. 1). Specifically in the Khabarovsk territory the average tariff for 2014 has made 1585,9 rub that above the average across Russia for 145,75 rub/Gcal or for 10,1%<sup>1</sup>. The smallest average tariff for 2014 was observed in the Volga Federal District – 1114,43 rub. The average tariff across the Russian Federation was established at the level of 1440,15 rub for 1 Gcal.



*Fig. 1. Average tariffs for the thermal energy which is released by the heat supplying organizations to consumers, on average on the federal districts [11]*

In 2015 the highest tariff for heat power was established in the Far-Eastern Federal District (growth rate of 109,7%), across the Khabarovsk territory 1675,37 rub (growth rate in comparison with last year of 105,64%, in comparison with an average tariff across Russia of 107,4%). The smallest level of a tariff was established in the Siberian Federal District – 1161,28 rub. The average tariff for 2015 has made 1559, 86 rub.

Tariffs for the electric power on the federal districts of the Russian Federation are shown in the figure 2.

The smallest tariff for electric power in 2013 has made 1,60 rub/kWh in the Siberian Federal District, the average tariff across Russia – 2,5 rub/kWh. The greatest tariff in 2013 has made 2,94 rub/kWh in the Central Federal District, in the

<sup>1</sup> According to the Committee on the prices and tariffs of the government of the Khabarovsk territory.

Khabarovsk territory this indicator – 2,93 rub/kWh that above the average across Russia for 21,9%.

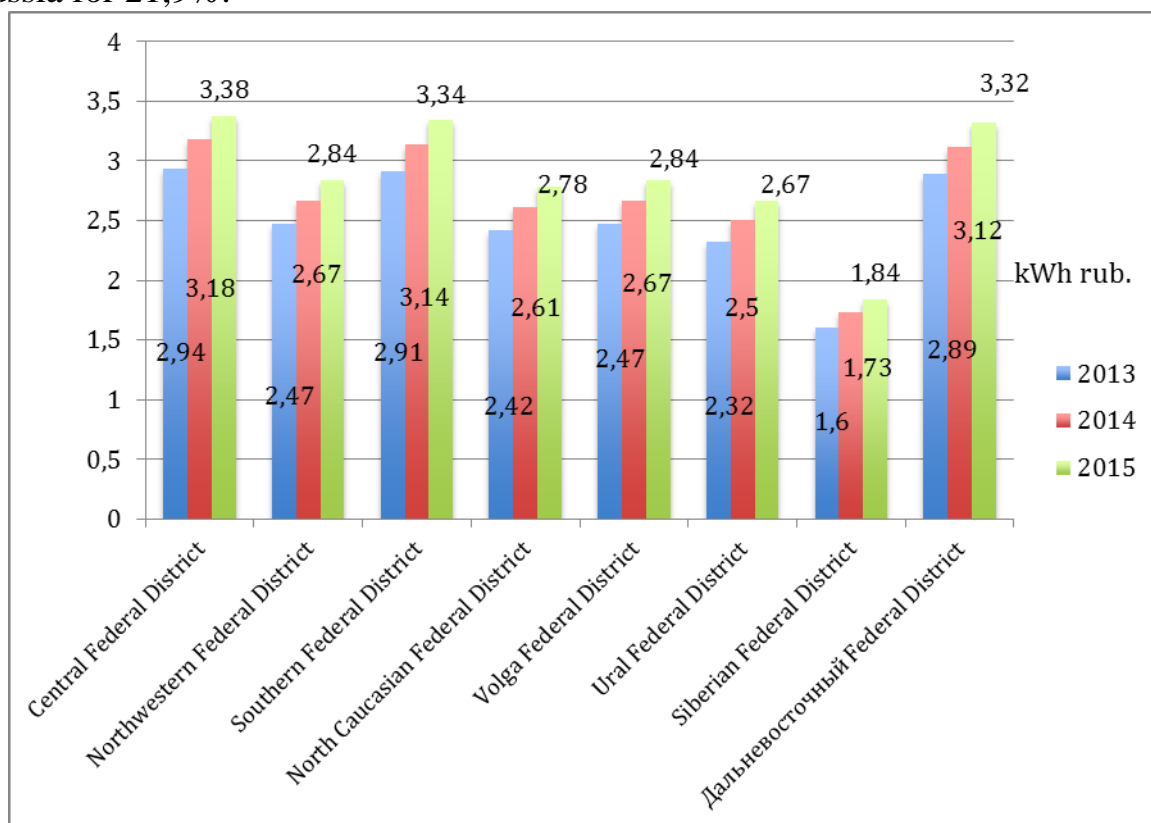


Fig. 2. Average tariffs for the electric power on the Federal districts [11]

The smallest tariff for the electric power in 2014 has made 1,60 rub/kWh in the Siberian Federal District, the average tariff across Russia – 2,7 rub/kWh. The greatest tariff in 2014 has made 3,18 rub/kWh in the Central Federal District, in the Khabarovsk territory this indicator – 3,09 rub/kWh that above the average across Russia for 14,4%.

The smallest tariff for the electric power in 2015 has made 1,60 rub/kWh in the Siberian Federal District, the average tariff across Russia – 2,88 rub/kWh. The greatest tariff in 2015 has made 3,38 rub/kWh in the Central Federal District, in the Khabarovsk territory this indicator – 3,3 rub/kWh that above the average across Russia for 14,5%.

Establishment in the Far East high, in comparison with the other federal districts, tariffs for the electric power is caused by the following factors:

- the size of the area of the territory of the Far-Eastern Federal District;
- the share of the thermal power plants using imported fuel, making 65%;
- the high degree of wear of the equipment at the enterprises. According to the Ministry of regional development of the Russian Federation, the average across Russia physical wear of the boiler rooms has reached 55%, municipal networks – 65%, electric networks – 58%, thermal networks – 63% [19];

- the severe climatic conditions and the long heating period therefore the high average per capita electricity consumption and the raised expense on heating of the room is reached [14].

Solution of the problem of alignment of tariffs at the regional level could be promoted by the following:

1) transition from the inefficient and expensive tariff regulation to the method of ensuring profitability of the invested capital, decrease in the term of return of the invested capital. International experience shows, that the practice of application of the method of profitability of the investment capital is the most effective: the power companies several times reduce the expenses that leads to the tariff decrease at the investment increase in the branch;

2) application of the raising (lowering) coefficients providing interrelation of the necessary gross revenue (NGR) regulated the organizations, qualities of the realized services and a level of their reliability. In case of discrepancy of quality of the services network companies to the established standards the expenses of consumers are the subject to compensation, or the consumers will give the smaller price for services of these companies.

3) interregional smoothing of tariffs realized in the way:

- establishments of the uniform rates of tariffs in the territory borders of several territorial subjects of the Russian Federation;

- establishment of the extreme maximum and minimum price levels on services in transmission of energy, identical within one federal district;

- economic incentives of the heat-network and electro-network organizations to decrease in differentiation of tariffs for consumers by the means of [16, p. 85];

- establishment of the uniform rules for increase in the efficiency of activity of the organizations at the heart of which there would be the achievement of indicators of the most effective organizations in the branch;

- stimulation of the organizations to increase in the loading of capacities which can be organized by reduction in the cost and simplification of the procedure of accession to the network of new consumers.

In the sphere of power industry [8, p. 18] formation of the regional technique of establishment of tariffs which would allow estimate the influence of tariffs growth at the formation stage can be recommended. Factors of decrease in a size of tariffs can be: growth of the offer, decrease in the expenses, competition growth, introduction of new technologies, growth of investments into the power industry, emergence of new sources of energy production.

In March, 2016 the Russian President at the meeting with the members of the government has noted a need of alignment of the energy tariffs in the Far East to the average Russian level. For reduction of tariffs the complex of sources and mechanisms will be involved in the Far-Eastern regions to the average Russian level, and all of them aren't connected with the expenditure of budgetary funds. It is supposed that alignment of energy tariffs will happen for 2 - 3 years [17].

For alignment of the energy tariffs three main sources are already determined. First of all, the extra charge for consumers of the wholesale market of the electric power. Secondly, the means from liberalization of the price of power of

hydroelectric power station of Siberia. Thirdly, the means of PJSC "RusHydro". Other directions which can promote the reduction of tariffs in the Far East and which will be surely involved are optimization of the prices of purchase of fuel for the production of electric energy; optimization of the investment programs of power engineering specialists of the Far East; strengthening of the control of order of consideration and adoption of the tariff decisions; development and stimulation of the generating objects functioning on the basis of use of renewables in the territory of the Far East.

The loss of income of the power companies of the Far East from the reduction of tariffs will be compensated by the extra charge of the price of power for the consumers of the wholesale market of the other Russia. By the joint calculations of FAS and the Ministry for development of the Russian Far East annual compensations for the alignment of tariffs can make 29,5 billion rubles, to this volume it is planned to come in three years. After alignment the existing tariffs will decrease in the different regions of the Far East by 5 – 65% that considerably will increase competitiveness of the enterprises of the region [18].

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