

Socio-Economic Consequences of Changes in the Tariff Policy of the Electric Power Industry

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Abstract. The article examines the current tariff policy for electricity in the Republic of Belarus. There has been a significant disproportion in tariffs between industrial and household consumers, including in comparison with the countries of the Eurasian Economic Union and Europe. The level of electricity cost reimbursement, which causes the problem of cross-subsidization, was analyzed. It's noted that the share of electricity costs in the household budget has been staying at the same level for a long period of time and remains relatively insignificant. It's noted that with the continued payment of targeted social benefits to pay for housing and communal services for households with low incomes, taking into account the insignificant share of electricity costs in the household budget, the gradual increase in tariff will not have a significant impact on the financial situation of citizens. At the same time, with an increase in energy tariffs, it is necessary to conduct a comprehensive assessment of the growth of household expenses not only in payments for housing and communal services, but also in electricity costs of companies paid by the population as part of domestic goods and services.

1 Introduction

Tariff policy in the energy sector directly affects the national economy, since it determines prices not only for energy resources, but ultimately for all goods and services used in industry and the household sector. This necessitates the formation of a balanced tariff policy in the energy sector, taking into account the interests of all participants in economic relations.

The tariff policy in the energy sector of the Republic of Belarus is characterized by a number of features like full state regulation, a low degree of tariff differentiation, and the presence of a significant disproportion in tariffs for industry and the population.

The disproportion in tariffs for industry and the population is caused by the socially oriented policy of the state; in order to reduce the price burden on the population when paying for housing and communal services, underpayment by the population for energy to the level of economically justified costs is compensated by establishing higher tariffs for electrical energy for consumers in the real sector of the economy, this practice is called "cross-subsidization".

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2 Analysis of tariff policy of the electric power industry

Thus, the current tariffs for electrical energy for companies in the Republic of Belarus are at a level significantly higher than the countries of the Eurasian Union and Europe, which puts the energy-consuming companies of the Republic in a non-competitive position in foreign markets. At the same time, tariffs for household consumers, that is, for the population, in the majority European countries are 1.5-3 times higher than the tariffs for companies, while in the Republic of Belarus they are almost 40% lower than the tariffs for companies (Figure 1). The high level of tariffs for the population in developed countries is determined by the high level of income of the population; regulatory bodies can afford to keep tariffs at a high level without fear of social upheaval.

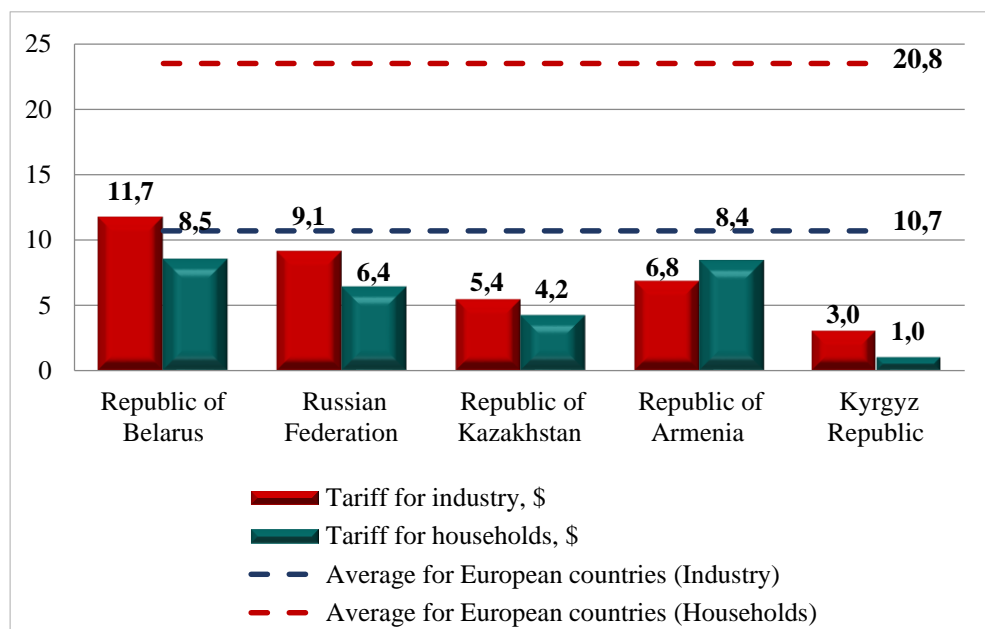


Fig. 1. Level of electricity tariffs for households and companies in the countries of the Eurasian Union and Europe, US cents [1].

An increase in electricity tariffs has a significant impact on the economic situation of individual sectors of the economy and the state as a whole, since the main organizations that form the country's GDP are energy-consuming; the electricity intensity of GDP in the Republic of Belarus is 18.7% higher than the European average. The share of electricity consumption of tariff group I (for companies and equivalent consumers with a respective capacity of 750 kVxA and above) is about 45% of the total volume of gross electricity supply in the Republic of Belarus [2].

Understanding the importance of eliminating such price disproportions, the Republic has repeatedly taken measures to abolish cross-subsidization. Thus, in 2012, the state program for the development of the Belarusian energy system for the period until 2016 provided for a gradual increase in the population's reimbursement of costs for the provision of energy supply services to a level of at least 60% by 2015. After that, in 2016, a comprehensive plan for the development of the electric power sector until 2025, taking into account the commissioning of the Belarusian Nuclear Power Plant, provided for 50% reimbursement of housing and communal services costs by the end of 2016, 75% by the end of 2017, and 100% by the end of 2018. However, due to the negative reaction of the population to the sharply increased cost

of housing and communal services, the implementation of this plan was suspended; despite a slight decrease in the disproportion in these periods, today the tariff for companies continues to grow (Figure 2), and the level of full reimbursement of costs by the population has not been reached (Figure 3). At the same time, the tariff for electrical energy for industry subsidizes not only the underpayment by the population to the level of the economically justified tariff for electrical energy, but also the underpayment for heat energy.

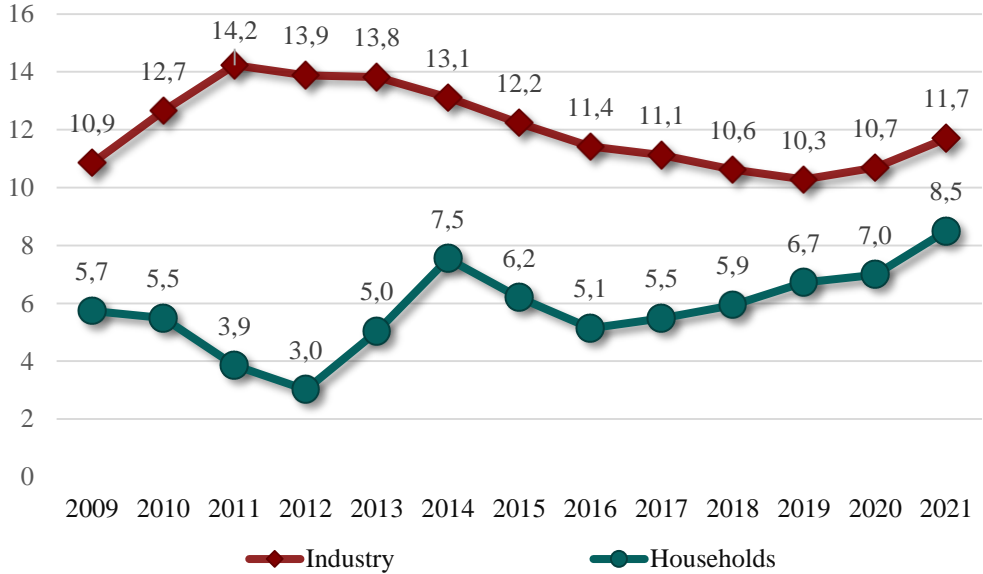


Fig. 2. Dynamics of electricity tariffs in the Republic of Belarus, US cents (based on data [3]).

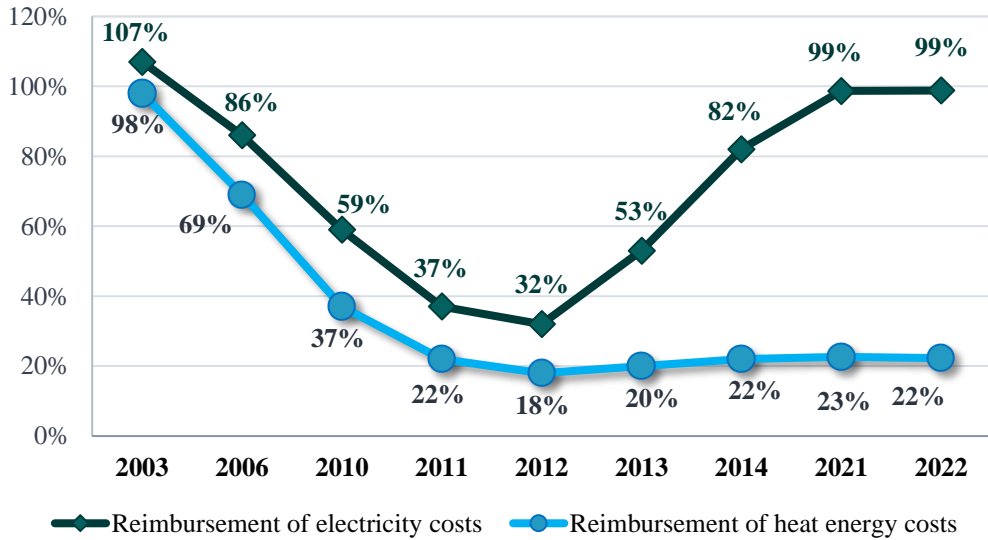


Fig. 3. Level of reimbursement of energy costs by the population.

It should be noted that the permissible growth rate of tariffs for the population is regulated by law; tariffs for the population can be increased twice a year from January 1 and June 1 by no more than \$5 per year in equivalent, which does not always correspond to the increase in

energy production costs. So, this year the situation has noticeably worsened; over the 6 months of 2023, as a result of curbing electricity tariffs for the population, the level of cost reimbursement by the population decreased to 92.7%, which indicates a further increase in the problem of cross-subsidization.

It should be noted that with the increasing load on industry, paying for electricity takes up a relatively low share in the income of Belarusian families and does not even reach 1.5% (Figure 4). For comparison, in European countries, on average, costs for paying for electricity amount to 3-4% of the household budget.

With an additional increase in the tariff by an average of 4.3%, the share of expenses for paying for consumed electricity in the average income of one person would return to the level of 2000 and would remain quite insignificant. In addition, it should be noted that in the Republic of Belarus, for households with low incomes, a system of non-cash housing subsidies is provided, granted if the monthly payment for housing and communal services exceeds 20% of the average monthly family income in the city and 15% in the countryside, which provides support for this category of consumers and reduces the risk of social upheaval.

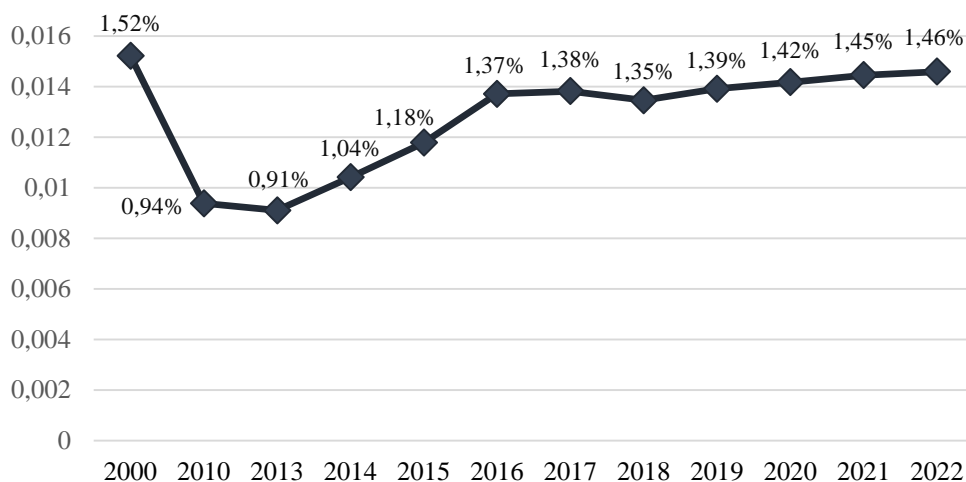


Fig. 4. Share of expenses for payment for consumed electricity per 1 person in the average income level of the population cents (based on data [4]).

A slight increase in the share of expenses for payment for consumed electricity per person starting from 2019 is explained by an increase in electricity consumption per capita since this period (Figure 5), due to the introduction from January 1, 2019 of preferential tariffs for the population for electricity for heating and heating needs and hot water supply in residential buildings that are not properly equipped with centralized heat and gas supply systems, with the subsequent transition of a significant number of citizens to electric heating of residential buildings.

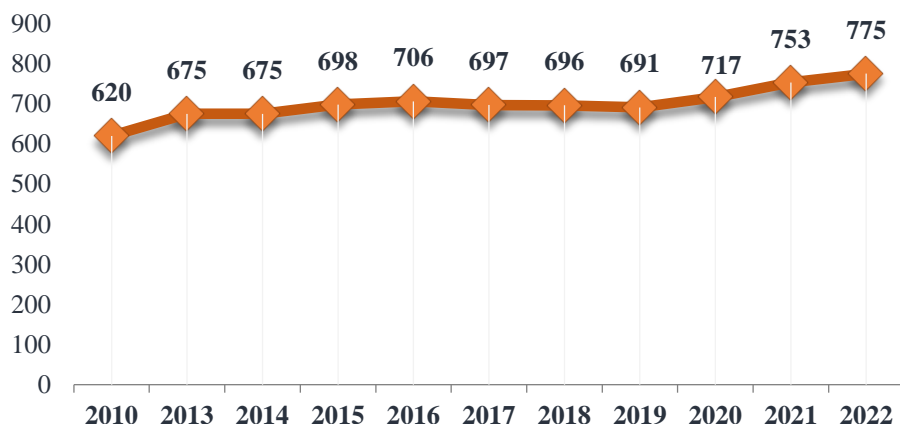


Fig. 5. Electricity consumption per capita, kWh (based on data [5]).

The preferential tariff for electrical energy for the needs of heating and hot water supply is almost 5 times lower than the cost of its production, however, the application of such a tariff is a measure to stimulate an increase in the consumption of electrical energy, taking into account the commissioning of the Belarusian Nuclear Power Plant into the unified energy system of the Republic of Belarus, leading to redundancy of production capacities in the electric power industry of the Republic. In the long term, the inevitable increase in tariffs for thermal energy will stimulate an increase in electricity consumption for heating purposes and will lead to a decrease in heat energy consumption and, as a consequence, the financial burden borne by the energy system for servicing heating mains [6].

In general, there are 5 tariff groups in the Republic for the population: two tariff groups are provided for the citizens using electrical energy for lighting, food preparation and operation of household appliances, three tariff groups are provided when using electricity for heating and hot water supply. Tariff groups are additionally differentiated by time periods (the tariff generated for a temporary period may exceed the level of the base tariff).

It should be noted that the low level of electricity tariffs determines the lack of economic incentive for the population to rational use of energy resources; the relationship between the level of electricity tariffs for the population and the volume of energy consumed is practically absent (Figure 6).

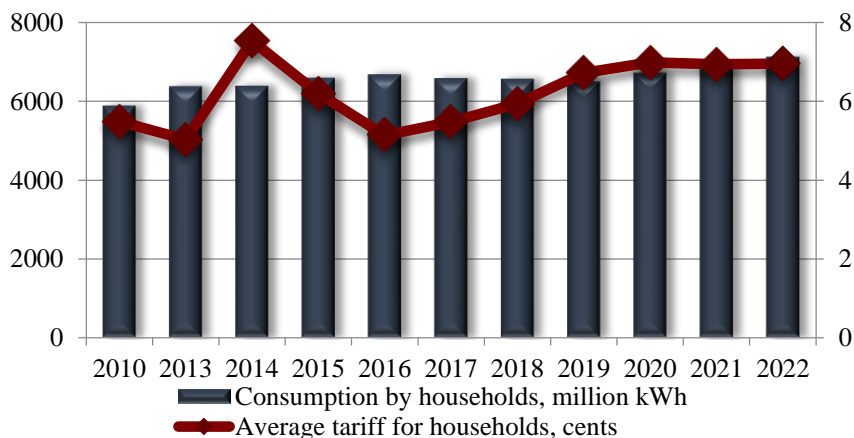


Fig. 6. Dynamics of electricity consumption by the population and the average electricity tariff for the population cents (based on data [5]).

Thus, it should be noted that the restraint of tariffs for the population does not stimulate the rational use of electricity and increases the burden on industry, worsening the export potential of domestic companies. Further restraint of tariffs for the population will continue to increase the burden on industry, while it should be noted that the population ultimately still pays the full cost of electricity through the purchase of domestic goods and services, including the costs of producers for energy. In this regard, the existing approach to increasing tariffs for the population, based only on household energy expenditures as part of housing and communal services, without taking into account the subsequent increase in prices for goods and services purchased by the population, is not correct. A gradual increase in tariffs for the population with the subsequent elimination of cross-subsidization will reduce the financial burden on the real sector of the economy, reduce the cost of manufactured products, and increase their competitiveness.

3 Conclusions

Taking into account the insignificant share of electricity costs in the household budget and the absence of a relationship between the level of the electricity tariff and the volume of its consumption, we can say that a gradual increase in the tariff will not have a significant impact on the well-being of citizens. Thus, one of the main tasks of tariff policy in the energy sector should be the adoption of economically justified tariffs for all categories of consumers, taking into account a comprehensive assessment of the growth of household expenses both in payments for housing and communal services, and as part of domestic goods and services. Thus, a gradual increase in tariffs for the population and a reduction in the number of preferential consumers with the continuation of the practice of simultaneous payment of targeted social benefits for households with low incomes will free industry from an unusual function, which is social protection of the population, leaving it to a greater extent to the state.

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